ANIMALS AT WORK: A MULTISPECIES ETHNOGRAPHIC STUDY OF ENTANGLEMENTS OF CART-HORSE LABOUR IN FREEDOM FARM INFORMAL SETTLEMENT, CAPE TOWN.

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A thesis submitted in partial fulfilment of the requirements for the degree of Magister Artium in the Department of Sociology, University of the Western Cape.

UNIVERSITY *of the* WESTERN CAPE

Supervisor: Dr Sharyn Spicer

November 2022

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KEYWORDS

Actants

Entanglements

Informal settlements

Interaction

Labour

Multispecies ethnographies

Nonhuman

Work

Working horses

Well-being

DECLARATION

I declare that *Animals at Work: A Multispecies Ethnographic Study of Entanglements of Cart-Horse Labour in Freedom Farm Informal Settlement, Cape Town* is my work, that it had not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Lynné Hazel Vigeland

November 2022

Signed:………………………………

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ACKNOWLEDGEMENTS

I would like to thank the following people for their support and contribution to the completion of this study:

My parents, Leon and Hazel Vigeland, and my brother, Hadley Vigeland, for their incredible support while undertaking this research.

My supervisor, Dr Sharyn Spicer, for her guidance and assistance with this project since last year. Her faith in my capabilities was always great motivation. A special thanks to Dr Susan Holland-Muter for always reminding me of the "voice of the animal".

To Aiman, my fellow cart drivers, and the cart-horses of Freedom Farm – thank you for sharing your stories with me. Their contribution to this project and the greater human-animal studies is invaluable.

To my fiancé, Mark Kapiera, for your assistance with fieldwork and daily motivation to carry on - this project would not have been possible without you.

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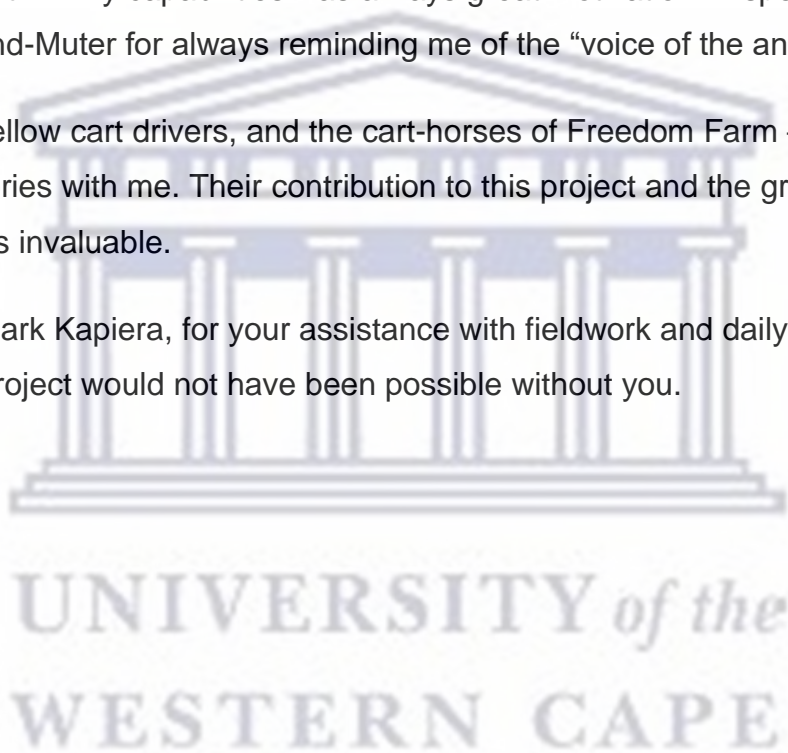
ABSTRACT

ANIMALS AT WORK: A MULTISPECIES ETHNOGRAPHIC STUDY OF ENTANGLEMENTS OF CART-HORSE LABOUR IN FREEDOM FARM INFORMAL SETTLEMENT, CAPE TOWN.

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Human life experiences are closely intertwined with our relationships with other animals and the environment. From the late 19th century to the late 20th century, Cart-horses served as an informal travel market for the community of District Six of Cape Town. However, because of forced migration, the role of horses in the city of Cape Town changed as people`s living experiences changed. Cape Town City Council may have animal laws regulating the ethical treatment of working horses concerning people's living and working conditions. Informal communities like Freedom Farm rely on cart-horses, however, this is not necessarily regulated for the benefit of horses. Non-human animals in urban environments offer perspectives for rethinking urban society. Actor-network theory (ANT) is an empirical, research-based interdisciplinary perspective that focuses on the process of translation and the role of non-human actors in various observations and experiences. Through a multispecies ethnography, participant interviews were conducted with members of the community who owned and drove cart-horses. Data was collected through participant interviews, participant observation in their encampment and observations of the cart-horses` interactions with the owners. The purpose of describing settlement features and dynamics is important in understanding the basis and context of human-horse relationships. The common purpose in which humans and horses develop their relationship is based on an anthropocentric need for animal labour.

November 2022

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CHAPTER 1 – INTRODUCTION

The human lived experience is an intricate enmeshment of relationships with nonhuman animals and the environment. Companionship, labour, entertainment, research, and tourism are notable objectives of human interaction with nonhuman animals. Human-animal relationships are often observed dichotomously; the impact of humans on nonhuman animals or vice versa is greatly stressed to indicate the benefits or consequences of these interactions. However, upon closer observation, the nature of these interactions in each environment reveals the intimate connection in these relationships.

The degree and quality of interactions between humans and non-human animals are greatly influenced by human attitudes towards nonhuman sentience and agency. Socially and/or culturally produced roles and representations of animals may inform their attitudes. Certain animals, such as the African elephant, are considered important totems among African tribes; representing the origins of these tribes, their ancestors, and their homelands (Olupona, 1993; Mandillah and Ekosse, 2018; Makgopa, 2019). In essence, these animals become symbols of personhood (Olupona, 1993) and are highly revered and respected by the people. Livestock animals, in contrast, experience stress in small-scale and industrial agriculture which negatively impacts the condition of their welfare. Improper handling techniques can be attributed to livestock as commodities; identifying the animal as a product to be exchanged for money distances human emotion from the actual outcome of raising animals for dietary consumption. From these examples, it is evident that there is a correlation between the perceived "closeness" of the human connection with the animal and the ability to make choices.

Treatment and attitudes towards animals often reflect existing social issues in human society. The roles and representations of horses, for example, show the stratification of the socioeconomic classes. Additionally, associations with social factors are formed with horses based on what they do, who owns them, and who maintains their health. Thoroughbred shows- and racehorses are owned by financially affluent males as a symbol of wealth. Horses in the entertainment industry are valuable for their aesthetic

appeal and high level of fitness. A breeding pair with these desired traits are highly likely to reproduce genetically fit offspring, Hence, great effort and money are invested in their care. However, working horses are mostly comprised of mixed-breed horses; their strength and load capacity is often exploited for draught labour. Given that these horses are involved with labour, they are rendered replaceable and of less value individually.

The following chapter will describe the development of human-horse relationships with a brief historical overview of horses in southern Africa and Cape Town respectively. Thereafter, the current standing of horses in Cape Town will be discussed. Following that will be a brief discussion of cart-horses at Freedom Farm informal settlement. Lastly, the present study's rationale, aims, and objectives will be described.

1.1 Horse of the South: A brief historical overview of horses in southern Africa

The term "equine" is a collective word used to describe any member of the genus[1], *Equus*; it includes zebras, horses, and donkeys. Members of *Equus* spp. existed on the African continent before colonisation (Swart, 2005). The three main species included the Grévys zebra (*Equus greyvi*), the Plains zebra (*Equus quagga*) and the Mountain zebra (*Equus zebra*). They are widely distributed throughout the eastern and southern regions of the African continent, each occupying a different landscape. An endemic sub-species of Mountain zebra, known as the Cape Mountain zebra (*Equus zebra zebra*), had a wider distribution range at the Cape centuries ago. Many years back, this equine species had a large population on Table Mountain. However, due to habitat loss and human development, its population size and distribution are even more geographically restricted to a few habitats in the Western Cape (Western Cape Government, 2018).

None of these equine species were domesticated by early nomadic (San) or pastoralist (Khoi) societies in South Africa before colonisation. The approaches to the lifestyle of the San and Khoi groups were distinctive. The San preferred to hunt meat and gather edible and medicinal plant material, whereas the Khoi broke away from this tradition by

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[1] A genus is a taxonomic category that consists of species that are closely associated by biological similarities

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planting crops and raising small cattle (Tanaka , 1996). The horse (*Equus caballus)*, however, was introduced to the colonies – and subsequently to indigenous groups – by the European settler-colonists in the mid to late 1600s (Swart, 2005). The lives of humans and horses thus became entangled in developing European settler colonies, such as the Cape Colony, on the premise of a human need for animal labour.

The horses introduced at the Cape were utilised with great significance to human economies and history (Swart, 2005; Swart 2008). Their main contribution was in the form of labour, namely transportation and power in the form of military animals (Swart, 2005; Swart, 2012). Horses were more efficient to carry lighter loads across softer soil types (Starkey, 1999). Given their streamlined body condition, they were able to carry people on horseback over distances in a short time frame. This was attractive to policing and military bodies in the developing settler community.

1.2   Colony to City: Horses and the development of Cape Town

In the 18th and 19th centuries, horses became most notably involved during the rising conflict between Dutch and British colonial powers, existing indigenous communities, and enslaved people for land and resources at the Cape of Good Hope (Swart, 2010). Their role in the colonial military during this period developed an association with the invading - and increasingly expanding - European settler colonial community. Over time, the horse industry became stratified as different breeds became associated with symbolic status among human groups (Swart, 2008).

From the late 19th century to the late 20th century, cart-horses served the community of District Six, Cape Town, as informal mobile markets. Foods such as fruit, vegetables, and fish were hawked (Afrikaans: "gesmous") from the back of these carts (De Klerk, *et al.*, 2020). However, during the Apartheid regime, District Six was reclassified as a "whites only" area in 1966 under the Group Areas Act no. 51 of 1950. The existing community's African and "coloured" people were forcefully removed in the year 1968, displacing generations of families to the Cape Flats. Consequently, the cart-horses and

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donkeys previously entangled with this community also became displaced by the association (Cart Horse Protection Association, n.d).

The role of equines in the City of Cape Town has changed over time as the human lived experience transformed. The City of Cape Town's animal by-laws of 2010 defines a "working equine" as a "horse, donkey, mule, or ass that is fit for pulling an animal-drawn vehicle used for financial gain". Horses and donkeys are commonly involved in human labour processes in low socio-economic areas around Cape Town. Typically, they can be identified in many different roles: as cart-horses/donkeys, involved with informal waste management, (e.g., scrap metal removal); as draught labourers, carrying heavy loads on small-holder farms; and as transport for goods and people living on many informal settlements (Rink & Crow, 2021).

1.3 Settled horses: An introduction to cart-horses of Freedom Farm informal settlement

Freedom Farm is an informal settlement located at the intersection of Robert Sobukwe Road and Stellenbosch Arterial in Cape Town's northern suburbs (Appendix I). Approximately 637 households settled on this land with an area of 15.02 hectares; 90% of which is privately-owned land (Informal settlements maps, n.d). To put this into perspective, the household density within this settlement is 42 households per hectare. This settlement was initially established along the fence of Cape Town International Airport and has been in existence for more than 20 years (Informal settlements maps, n.d).

Horses, donkeys, and goats are common nonhuman animals in this settlement; the equines are often spotted grazing on the grass near the roadside. The human population utilises horses and donkeys for transportation and other forms of labour. However, they must survive with minimal necessities, such as running water, flushable toilets, and electricity.

1.4   Rationale of the present study

The locality of Freedom Farm presents constraints that prevent the municipality from installing proper sanitary facilities. For example, 99.84% of the land area is in a noise zone, where structures are in an airport zone of greater than 65 decibels (Informal settlements maps, n.d). This informal settlement may thus provide valuable insight into how the entangled, nonhuman animals are "put to work" under these conditions. Given their entangled socioeconomic conditions, how do humans and working equines interact and conduct labour interact?

A recent publication by de Klerk *et al.* (2020, p.6) notes that there is "no published literature looking into the use of working equines in urban areas in South Africa". Prior studies focused primarily on working equines in rural environments. Essentially, de Klerk (2020) introduces the socioeconomic impacts of working horses in urban and peri-urban areas of the Cape Flats. It has been established that cart-horse labour is positively significant to human socioeconomic conditions (De Klerk, *et al.*, 2020) by advancing human mobility within the urban environment (Rink and Crow, 2021). Working horses participate in the act of labour under similar conditions as humans. However, they experience the act of labour in these spaces differently.

In the City of Cape Town municipal district, animal by-laws may mandate the ethical treatment of cart-horses by humans in terms of living and working conditions. However, it is not always regulated to the benefit of the horse's well-being in informal communities, such as Freedom Farm, that presently rely on them. More importantly, the relationships between humans and working horses underpinned through interactions between each other and their environment, are not well-documented in the literature.

1.5   Research aims, objectives, and questions of the study

Shapiro (2020) suggests that new research in human-animal studies should attempt to integrate empirical data and various theoretical perspectives associated with human-animal relationships. Four strategic approaches, as discussed by Shapiro (2020), allow developing research methodologies to challenge more traditional, socially constructed

differences between humans and nonhuman animals. These approaches include the following: elevating the animal being; "lowering" the human being; blurring the distinction between humans and nonhuman animals; and, questioning the perceived differences, and subsequent "otherness", that exists between them (Shapiro, 2020).

By taking these approaches into account, the proposed study aims to de-centre the anthropocentric perspective (Shapiro, 2020) of nonhuman animal labour by attempting to re-conceptualise agency in working horses. The main objective of the proposed study is two-fold. Firstly, to observe and describe the complex entanglements of labour between humans and working horses. Lastly, to establish whether their experiences of labour can be used to describe the condition of their well-being. Concerning the research objectives, the following research questions arise: Do nonhuman animals have a sense of working or being part of a working relationship? Can this be a source of meaning or well-being to nonhuman animals?

1.6   Summary of chapter one

This chapter has introduced the topic of cart-horse labour and the present study's aims, objectives, and research questions. The human lived experience is intricately intertwined with relationships with other animals and the environment. Treatment and attitudes towards other animals often reflect social problems that exist in human society. From the late 19th century to the late 20th century, the cart-horse served as an informal travelling market for the Cape Town community of District Six. However, because of forced removals, the role of horses in the city of Cape Town has changed as human life experiences have changed.

Freedom Farm is an informal settlement at the intersection of Robert Sobukwe Road and Stellenbosch Arterial Road in the northern suburbs of Cape Town. Horses, donkeys, and goats are common other animals in this settlement. The City of Cape Town Municipality may have animal by-laws governing the ethical treatment of working equines by humans concerning their living and working conditions. However, in informal communities such as Freedom Farms, which now rely on them, this is not always

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regulated for the welfare of horses. In the next chapter, I review the literature and outline the theoretical perspectives underlying this work.

CHAPTER 2 – LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Animal work is underpinned by a few themes, given that other animals interact very closely with humans for work. Cart-horse labour, as a form of animal work, can be understood from a few different perspectives that explain this multispecies phenomenon. For this chapter, the main literature and theoretical perspective regarding animal work and working horses will be discussed. The first part discusses key studies on the following themes: urban space and segregation; animal agency and intersubjectivity; working equines and equine well-being; and the human-horse relationship. The second part outlines the theoretical perspective associated with the five main components of actor-network theory: the central core; mobilising the world; alliance building; balance of opinion; and autonomisation or institutionalisation.

2.1 Literature review

The act of labour is inherently considered a subjective, human activity. The human experience in any activity is based on the ability and capacity to act independently (agency) and the capacity to experience feelings and sensations (sentience). From earlier social studies on animals in society, Karl Marx agreed with this notion by characterising animals as tools or resources utilised by humans in their process of labour (Blattner, et al., 2020, p. 1). Bearing in mind this assumption, action responses by animals toward human beings, other animals, and their environment were believed to be driven by their biological instinct (Blattner, et al., 2020, p. 5). Other animals were perceived to possess no sense of agency or sentience; traits that would establish their participation in similar social experiences as humans. Inadvertently, other animals become constituents of the human lived experience; this is greatly evident in their involvement in human labour processes.

Social studies previously emphasised the impact of nonhuman animals on humans in a variety of ways, (e.g., Lawrence, 1988). These studies were analysed through social theories that additionally emphasised the lived experience of human beings in these

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contexts. DeMello (2012, p. 6) states that the use of other animals by humans over time makes it difficult to comprehend nonhuman animals as "subjects of life", rather than "objects of study". It does not account for the multi-layered interaction that occurs between humans, nonhuman animals, and their given environment. These entanglements are complex due to the variability of the urban landscape and its available resources.

For this section, the entanglements of nonhuman animal labour will be analysed and evaluated concerning three, broadly defined conceptual perspectives. Firstly, a brief intersectional overview of urban environments and informal settlements will be discussed. Secondly, discourse regarding nonhuman animal agency and intersubjectivity will be analysed. Lastly, the state of working equines and equine well-being will be discussed regarding human-horse relationships. This literature review does not address labour as a social process, nor does it delve into the biological processes of humans and cart-horses in the act of labour. However, it aims to describe the main conceptual underpinning these entanglements of actants involved in the labour process.

2.1.1 Intersections of the urban landscape and informal settlements

Historically, the population of Cape Town experienced racial segregation and separate development under Apartheid laws. The Group Areas Act no. 51 of 1950 resulted in neighbourhoods such as Bo Kaap and District Six being declared as "Whites Only" residential areas. Subsequently, the Cape Flats became an area for the relocation of black and coloured racial groups. Characterised by sandy soil type and shrubby fynbos vegetation, the Cape Flats were further developed into areas for coloured communities (e.g., Mitchells Plain and Athlone), followed by areas for black communities (e.g., Nyanga and Khayelitsha). The stratification of residential areas in Cape Town was intentionally planned by the Apartheid state to create buffer zones and greater distances between white and black communities (Pallagst & Fleschurz, 2016). The protection of white communities and infrastructure was extended by the position of coloured

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communities between them (Pallagst & Fleschurz, 2016). After twenty-eight years of democracy, the racial spatial planning in the city of Cape Town's residential areas is still visible - including some of the resulting socio-economic issues.

Urban areas are multi-layered spaces in which many complex interactions between human beings and nonhuman entities occur. Weeks (2010) describes the term "urban" as a place-based characteristic. It integrates elements of high human population density, stratified social and economic organisation, the absence of agricultural activities, and a substantial degree of transformed, built-up environments from natural spaces (Weeks, 2010, p. 34). The City of Cape Town is one such example of an urban area that is also boarded by many peri-urban spaces and informal settlements. These areas are located within the eight sub-districts of the City's municipality.

The high population density of Cape Town is influenced by rural-to-urban migration, the influx of foreigners and refugees, and high fertility rates. Socio-economic factors such as education, income, employment, community security and social support also affect the proportion and type of human settlement in eight districts of the city. In 2020, the city of Cape Town had 4 602 248 inhabitants, and due to the high degree of urbanisation, the population density per square kilometre was 1 882 (Western Cape State Government, 2020). In addition, of the 1 269 991 households reported in Cape Town in 2020, 14.4% lived in informal dwellings that were not in the backyard of formal dwellings (Western Cape Government, 2020).

Informal settlements are characterised by inadequate access to safe water and sanitation facilities, poorly constructed housing (often made of wood and aluminium sheets), insecure residential status, and overcrowding. These settlements are established on land that is not declared for residential purposes. They exist - and are expanding today - because urbanisation has exceeded the government's ability to provide land, infrastructure, and housing. The development of informal settlements becomes embedded in the city's spatial planning. However, these settlements are located on the fringes of more urbanised and developed parts of the city. At present, many people living in these settlements come from rural in the Northern and Eastern

Cape provinces. Hence, animals such as cattle, goats, and horses are common for consumption, cultural practices, labour, or transportation.

2.1.2   Nonhuman animal agency and intersubjectivity

Nonhuman animals in urban environments highlight a perspective from which urban society could be reconceptualised (Brighenti & Pavoni, 2021). It is observed in a reality where humans and nonhuman animals exist and interact in the same space. In the study conducted by Rink & Crow (2021), for example, the spatial dynamics of coexistence between cart-horses and humans were investigated. The shared experience of cart drivers and horses was one of negotiating space, mobility, and livelihood. The latter two factors emphasise the impact of the working horse on human quality of life. Despite the study only discussing one participant's experience, it is still a valuable empirical data set as a lens into the entangled lived experience of the cart-horse. This study shows an intersection between nonhuman life and urban gentrification, where animal lives become implicated in dynamic spaces (Hubbard & Brooks, 2021).

Agency and intersubjectivity in nonhuman animals have been debated in recent years. Healey & Pepper (2021) challenge this notion in a discussion on agency in nonhuman animals. They argue that nonhuman animals can choose the way they similarly act in a particular environment to humans. It can be instrumental to their experience with other animals, and humans, in their given environment as they are "free to pursue" their preferences and desires (Healey & Pepper, 2021, p. 1227). Animals may show signs of agency in the decisions they make when interacting with humans and other animals. Human-horse interactions are great examples of this notion, whereby the handling techniques of the human may be accepted in cooperation or rejected in their refusal to cooperate.

Alger & Alger (1999), for example, argued that there was some measure of intersubjectivity between humans and other animals. Interactions within human-cat and cat-cat relationships were determined by the social organisation of the shelter through a

multispecies ethnography. Most notably, the study determined that the social structure established at the cat shelter was defined by the choices made by cats - acknowledged and respected by human volunteers and carers (Alger & Alger, 1999). It provided a lens into an assemblage of human and nonhuman animals defining and organising their shared environment. Similarly, the intersubjectivity between humans and horses exists as they negotiate their work environment and entangled livelihoods (Rink & Crow, 2021).

2.1.3   Working equines and equine well-being

Animal work is defined as labour done with or by other animals (Coulter, 2016, p. 2). The use of working equines as a form of animal work existed for centuries in early agricultural and industrial societies. It was greatly favoured as a means of alleviating humans from hard, laborious activities such as transport, pulling, and loading. Work done by equines has been recorded in prior studies (e.g., Pearson & Vall, 1998; Starkey, 1999). The use of horses for riding and packing, for example, has a long history in many parts of sub-Saharan Africa (Starkey, 1999). In South Africa, the European colonists introduced working equines, like horses and donkeys, to colonies at the Cape for use in agriculture, military, and short-haul transport (Starkey, 1999; Swart, 2010). Working equines were favourable in areas where soils were lighter and the draught capacity was lower (Pearson & Vall, 1998, p. 322).

The origin and distribution of horses are still developing in historical records (e.g., Swart, 2010; Swart, 2010). The book chapter, *"But where's the bloody horse?" Humans, horses, and historiography* deal with the role of hoses in South Africa from the colonial period (Swart, 2010). Additionally, the article, *Horses in the South African War, c. 1899-1902,* discusses the role of horses during the South African War (Swart, 2010). Both of these publications examine the history of horses in the South African context concerning the colonial period. At present, the role of working equines has been proven to be advantageous in agriculture and peri-urban communities by contributing to productivity and reducing the work loads of humans (Pearson & Vall, 1998).

For working animals, like cart-horses, to take over the task of heavy labour from humans, there needs to be considerable effort where the preservation of good well-being is concerned. Animal well-being, by definition, describes the absence of pain or stress (Tannenbaum, 2017). The body of the horse expends energy to be able to pull a cart with a load on tarred roads. Swann (2006) suggests that a systematic approach may best address the welfare needs of the work horse – particularly in developing communities. When the well-being of the work horse is preserved and protected, it is suggested that many problems with the body condition, such as skin lesions or injuries, can be reduced and managed.

The domestication of the horse over time reflects a relationship with humans for a few key reasons. It is suggested that the range of uses for the horse in society may indicate a diversity of people who rely on interaction – and subsequent relationship – with horses. From agriculturalists and professional breeders to commercial riders and caretakers, human interactions with horses are observed as a spectrum (Hausberger, *et al.*, 2008). Cart-horses indicate a different demographic of people compared to the typical affluent horse owners and breeders. People living in low socio-economic communities utilise cart-horses as a personal mode of transport. Cart-horses also become a source of income, whereby material can be collected in exchange for cash incentives. Hence, social stratification is observed where categories of animal use (e.g., "working" animal versus "companion" animal) becomes associated with different socially constructed categories of people in urban society.

2.2   Theoretical framework

Actor-network theory (ANT) is an interdisciplinary perspective, grounded in empirical research, which draws attention to the translation process and role of nonhuman actors in various observations and experiences (Justesen, 2020). The foundational premise of ANT emphasises that the social, natural, and material realms of society should not be viewed as independent entities; human and nonhuman entities are interconnected and form distinct assemblages (Justesen, 2020, p. 328). The objective of using ANT to

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analyse empirical data enables the visualisation of these assemblages as it occurs. Like other constructivist approaches, ANT encompasses the idea that characteristics of relationships formed arise due to specific interactions between biotic[2] and abiotic[3] entities, rather than being inherent with social or material entities only.

According to Latour (1996, p. 7), the term "actant" refers to any entity that acts or to which an activity is imparted by another entity. An actant becomes an association between various entities that – in their capacity – can construct their network (Nickerson, 2022). By this definition, actants can either be human or nonhuman. The purpose of defining the human, the nonhuman animal, and inanimate objects in this manner disregards human linguistic categories which have described interactions, relationships, and experiences in prior social studies. It allows for the eventual discussion of assemblages formed in the actor-network by drawing attention to the complex existence of relationships between entities and not the definition of entities in the system.

ANT is not a purely sociological theory; it is a conceptual framework for empirical data analysis (Demant & Ravn, 2020) from a constructivist sociological perspective. In conjunction with Shapiro's (2020) guidelines for newer research in human-animal studies, ANT blurs the speciest distinction between humans and nonhuman animals regarding "actants". In doing so, the traditional connotations of agency and subjectivity bestowed upon humans are disregarded. Hence, the advantage of ANT is observed in the description of how actants conduct themselves among other actants, and not what they mean in human society.

In the actor-network analysis (ANA), there are five main components: the central core; alliance building; balance of opinion; and autonomisation or institutionalisation. The following chapter will briefly discuss these components:

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[2] The term, "biotic", refers to the living components of a community.
[3] The term, "abiotic", refers to the non-living components of a community.

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2.2.1 The central core

The central core, also called the "links and nodes" of the aggregate, represents all the actors (or "nodes") in the environment and contains the various relationships (or "links") that exist between them (Young, *et al.*, 2010, p. 1209). The "loop" represents the activity that connects the central core of the assembly to four interdependent power sources *(Young, et al.*, 2010, p. 1209). According to Latour's original model (1996), the connections between nodes of an actor-network are initiated by information transformation. As information transformations occur, loops of those interactions are organized and maintained. This is the essence of actor-networks; the individuals who make up various groups and the roles, purposes, and influences of their relationships.

2.2.2 Mobilisation of the world

As mentioned in the previous section, the "loop" of the actor-network represents the activity that connects the central core of the collective to the four interdependent power sources. The first source of power, world mobilisation, describes how actor-networks connect to a variety of non-human resources to transform information and produce innovations. The production of innovations becomes the solution to issues that exist in the actor network. Over time it evolves into a dynamic interrelationship of evidence and arguments (Young, *et al.*, 2010, p. 1209). A solution is designed and implemented through the utilisation of all available nonhuman resources.

2.2.3 Alliance building

A second source of power, alliance formation, refers to the process of assembling connected individuals or groups whose known information from relationships can expand networks and subsequent resources (Young, *et al.*, 2010, p. 1209). It also rejects potential additions to the network during this process. This is because they are likely to reduce their credibility and power, or because they are likely to support results that compete with that network. Alliances are usually built on experience and a level of trust is developed between individuals.

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2.2.4 Balance of opinion

Balancing opinion, the third source of power is gaining the acceptance of those who may be affected by the challenge. First, it acknowledges that the problem exists, and second, that "putative innovation" is the best way to approach it (Young, *et al.*, 2010). Political innovation requires a certain level of public acceptance before government adoption. Actors, therefore, seek to utilise their positions in public to encourage legal recognition. Here we also see the emergence of activist groups organised for underappreciated interests at the core of actor-networks. This further establishes the ability to innovate to address the issues that may exist.

2.2.5 Autonomisation or Institutionalisation

In actor networks, autonomy or institutionalization state the process by which relevant structures provide significant acceptance (and institutional support) for innovations (Young, *et al.*, 2010). Setting up a study, getting a report, or setting up a subject-specific unit (such as an office) are classic examples of how an issue autonomised. These behaviours create a sense of autonomy by distinguishing the issue at hand from other problems competing for institutional support. Regulation and program implementation reflect the way solutions are institutionalized (Young, *et al.*, 2010).

2.3   Summary of chapter two

Sociology has emphasized the impact of non-human animals on humans in several ways. Urban areas are multi-layered spaces with many complex interactions between human and non-human entities. Non-human animals in urban environments offer perspectives for rethinking urban society. Agency and intersubjectivity in non-human animals have been debated in recent years. There was a degree of intersubjectivity between humans and other animals.

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Actor-network theory (ANT) is an empirical research-based interdisciplinary, constructivist perspective that focuses on the translation process of information and the role of nonhuman actors in various human experiences. The first source of power, mobilisation of the world, describes how networks of stakeholders connect with a variety of nonhuman resources, transform information, and generate innovation. A second source of power, alliance formation, refers to the process of assembling connected individuals or groups whose known information from relationships can extend networks and subsequent resources. In actor networks, autonomy or institutionalisation refers to the process by which relevant structures provide significant acceptance (and institutional support) for innovation. This chapter provided an overview of the literature, identified research gaps, and highlighted the theory for Actor-Networks. The next chapter describes the research methods used to gather data.

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CHAPTER 3 – RESEARCH DESIGN AND METHODOLOGY

The following section will discuss the research design and methodology of this study. It will be addressed as follows: the research design of the pilot and main study; the types of data sources to be collected and analysed; techniques used for data collection; sampling techniques; data collection techniques; data analysis and interpretation; and ethical considerations.

3.1 Research design

The following section describes the research design for the pilot study and the main study:

3.1.1 Design and approach to the pilot study

Pilot studies, as defined by Hassan *et al.* (2006), are smaller studies used to prepare for larger studies by testing research protocols, instruments of data collection, recruitment strategies of the sample population, and other relevant research techniques. It allows a researcher to identify issues that may arise within the research instrument or protocol before the official data collection period. In essence, I was able to make my acquaintance with the study site and build familiarity with the research procedure involved with the study's protocols (e.g., methodology, COVID-19 compliance, adherence to ethical protocols). It also aided in decision-making for competing study methods considered for data collection.

Given the benefits, there are four broadly defined objectives of conducting pilot studies in qualitative research. Firstly, the feasibility of the proposed study protocol can be determined. The degree of convenience or difficulty experienced with explaining the purpose of the research, obtaining consent, and conducting the interview process would be observed. I was able to make amendments to parts of the study protocol as necessary. It should be noted that the population sample for the pilot study was different

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from the population sample for the main study (Hassan, *et al.*, 2006, p. 71). Possible biases in the main data collected was avoided in this manner (Hassan, *et al.*, 2006, p. 71).

Secondly, the process of recruiting subjects can be tested. The sampling technique is tested for its suitability for data collection. I was able to observe whether the approach to recruiting participants for the study followed ethical, and health and safety protocols. If required, I was able to change the approach to the recruitment process in the main data collection.

Thirdly, the efficacy of the measurement instrument (Appendix II) was tested. The suitability of open-ended questions was also determined. Similarly, it tested whether the questions were comprehensible, well-defined, and clearly understood by the interviewee. From the pilot study, I was able to choose the most appropriate questions following the study aims and objectives for the main study. These questions were chosen and re-written to suit the target participants (i.e., owners and drivers of cart-horses). More importantly, I was able to ensure that these interview questions accurately addressed the research questions.

Lastly, the degree of convenience or difficulty associated with data entry and analysis will be determined following the data collected during the pilot study. During this time, I transcribed the recorded data onto a computer, annotated thick descriptions of observation and interview data, and analysed this information in the context of the theoretical framework (actor-network theory). By the end of the pilot study, I found a more efficient approach to data entry and analysis in the main data collection.

3.1.2 Design and approach to the main study

Ogden, *et al.* (2013, p. 6) described multispecies ethnographies as a reconsideration of nature and society which de-centres the "human" component of social ethics and theory. Following this approach, this study involved the collection of non-numerical data on human-horse interactions and relationships through the description of different

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opinions, concepts, and experiences (Järvinen and Mik-Meyer, 2020). It resulted in qualitative data sources in the form of interview transcripts, field note descriptions, and photographic material that was suitable for thematic analysis. The themes derived from these data sources were then analysed by way of the actor-network theory.

3.2   Data source of the main study

Qualitative data for this study considered human *and* nonhuman animal participants. Both data sources were synchronously observed during each interview; key observations outlined above were notarised in field notes for the identification of themes. The resulting thematic data – further discussed by way of actor-network theory (ANT) – was scrutinised to determine whether working horses possess a sense of agency when involved in human labour processes.

3.2.1   Data sources of human participants

Concerning humans, semi-structured participant interviews were based on the following broad topics: the human's relationship with the horse, the horse's relationship with the human, and the human-horse relationship during work (Appendix III). Participants were given information about the study (Appendix IV) and asked for their written consent (Appendix V) before the start of the interview. Additionally, the cart driver was observed during their interaction with the horse during feeding and cleaning - both in and around the stable.

3.2.2   Data sources of nonhuman participants

In contrast, the nonhuman animal – specifically horses – was observed for their interaction with other horses, other nonhuman animals, their human companions, and me. The horses were also observed for their cooperation and engagement with items such as the cart, the bridle and reins, and their living and/or working environment. The

aim was to observe patterns and deviances in their behaviour while interacting with the various entities.

3.3   Sampling of participants

The study aimed to de-centre the anthropocentric perspective of nonhuman animal labour by re-conceptualising agency in working animals. The objective was to observe and describe the labour process between humans and working horses. Additionally, the goal was to find out whether these experiences may be suitable descriptions of animal well-being. Given the aims and objectives, participants for this study were approached using the snowball sampling technique.

This type of sampling technique can be described as a variation of convenience sampling. The members of the desired community are readily available to me (Naderifar, *et al.*, 2017) through mutual acquaintances. In this manner, potential participants were already known by an acquaintance, Aiman[4] (Cape Flats vernacular for "Rasta man"), who lives at the forefront of the settlement. Horses in the settlement regularly graze the pasture close to his dwelling. As an introduction to the settlement dynamics and research procedure, he became my first participant in a pilot study conducted in January 2022. He became an invaluable person of interest as he was the link between me, the primary carers and/or drivers of cart-horses, and the rest of the settlement.

One participant, Chadwin[5], was approached while collecting scrap metal in my street with his horse, Boy George, on the 19th of July. They regularly came to my street on Wednesdays between 9:30 a.m. and 10 a.m., coinciding with the Old Belhar area's refuse collection day of the week. The pair's presence was made known by Chadwin's vocalisation of the phrase, "Enige scrêp?" ("Any scrap?") and the *klip-klop* sound of the horse's hooves. This signalled that they were in the area to collect scrap metal and garden refuse.

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[4] The name, Aiman, is a pseudonym used to protect the participant's identity.
[5] The name, Chadwin, is a pseudonym used to protect the participant's identity.

The other participants were interviewed at the settlement. Aiman agreed to chaperone me during my visits as he was well-acquainted with the cart-horse owners and drivers. Given the locality of his encampment, he was aware of the people who regularly entered and exited the settlement with cart-horses. The participants interviewed at their dwellings were Shaun[6], Henry[7], Reyaz[8], and Abbi[9]. As suggested by Aiman, it was ideal to interview them after 4 p.m. as the cart-horse drivers would have returned from their day's work. It also coincided with the start of peak-hour traffic on Robert Sobukwe Road and Stellenbosch Arterial.

3.4   Data collection techniques

The questions asked in the semi-structured interviews aimed to uncover three, broad areas of interest. Firstly, a series of questions related to the human participant's relationship with the working horse was asked. Secondly, questions related to the horse's perceived relationship with the human participant were asked in terms of the horse's response to the working environment, maintenance, and care. Lastly, the details of the human and horse's interaction and relationship during work were enquired.

Chadwin and his horse's presence in my street on the 19th of July became the ideal opportunity for semi-structured interviews and participant observation. It meant that I could observe and notarise the handling techniques of the horse and cart during working hours. Similarly, I was able to watch the horse's response to verbal and non-verbal communication from Chadwin as they stopped and started moving the cart with a load. With consent from Chadwin, I took photographs of the following: Chadwin's driving permit issued by Cart Horse Protection Association; the horse's body; the horse with the cart attached; and the load on the cart.

Shaun and Henry were interviewed on the 21st of July in their shared encampment while they unloaded chopped wood in the "houtbos" (wood-bush). With consent from both

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[6] The name, Shawn, is a pseudonym used to protect the participant's identity.
[7] The name, Henry, is a pseudonym to protect the participant's identity.
[8] The name, Reyaz, is a pseudonym to protect the participant's identity.
[9] The name, Abbi, is a pseudonym to protect the participant's identity.

individuals, the following photographs were taken: a leather harness that Shaun was fixing; the horse in the stall; and the piles of wood collected by Henry on the day.

Reyaz was interviewed on the 22nd of August in his encampment while he prepared a horse for wood collection in the "houtbos" with one of his friends. With consent from Reyaz, photographs of the following were captured: the scrap collector horse standing in the stall with a chicken sitting in his feed tray; the outside of the scrap collector horse's stall; the wood collector horse with the cart attached; and Reyaz calming the wood collector horse.

Lastly, Abbi was interviewed in his encampment while feeding his horses on the 30th of August in his encampment with his horses. With consent from Abbi, the following were photographed: three carts used for showcasing and special transportation; three horses in a small "kraal"[10]; six of the horses in their stalls; the inside of one of the stalls; one horse that returned from collecting scrap; and the cart of the scrap collector horse.

3.5   Data analysis and interpretation

Thick descriptions of the qualitative, empirical evidence were written during the time of data collection. Interviews and conversations were recorded with permission from the human participants. The transcription of audio/visual recordings (i.e., voice recordings and photographs) was conducted on the day of data collection for each participant.

Audio recording were manually transcribed. Transcripts was coded in Excel. With the resulting empirical data transcribed and coded, the resulting selection of empirical data was pooled into one Word document for the identification of themes for thematic analysis (Braun & Clarke, 2006). Lastly, the interconnectivity among actants was identified by way of actor-network theory (e.g., Petrina, 2019).

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[10] A "kraal" is an enclosure for the horses at the back of Abbi's encampment.

3.6   Ethical considerations

Ethical considerations define a set of principles and values that will strictly be followed when conducting human social research (Bhasin, 2020). For this multispecies ethnography, both human and nonhuman animal lives are entangled. The following factors were important to consider for this study:

3.6.1 Confidentiality

All and any information received for the duration of the study was treated as confidential. While writing up the empirical data and qualitative analyses, the data sources collected were used solely to complete the thesis. None of the data collected was disclosed to any third party, nor made publicly available or accessible in any way.

3.6.2 Informed consent

Participants were provided with written information about the study and the purpose of their involvement. They were free to ask questions at any point in time about the study. They were informed that their participation was completely voluntary. Additionally, they had the option to withdraw at any time, without giving a reason and without cost.

3.6.3 Provision of debriefing and additional information

At the end of the data collection period, participants were debriefed on the outcomes of the observations. The human participants were allowed to share their thoughts and experiences regarding this study. Considering the horses, any notable differences in their behaviour or appearance post-data collection were noted by me.

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3.7 Summary of chapter three

In this chapter, the research design and methodology were discussed. It was structured as follows: Study design of the pilot and main studies; types of data sources to collect and analyse; data collection techniques; sampling techniques; data collection techniques; data analysis and interpretation; and ethical considerations. The pilot and main study results follow in the next chapter whereby the settlements community structure is the core focus.

CHAPTER 4 – PRESENTATION OF RESULTS (Part 1)

The pilot and the main study both revealed a great deal of information about Freedom Farm informal settlement, the cart drivers, and the cart-horses. The following chapter will discuss the main results of the pilot study. The settlements' community structure and profiles of study participants and their cart horses are the core focus. Additionally, this chapter presents the results of the main study based on three themes identified in human-animal entanglements, namely: human-animal relationship development; strategies of animal labour; and work environment and animal well-being.

4.1   Freedom Farm informal settlement: The land and its people

In the pilot study with Aiman, it was revealed that a small Rastafari community, who primarily spoke Cape Afrikaans, formed part of the first groups of families to settle here. He built his encampment in 1993 with one informal dwelling among the Rastafari. At the time, he admitted to making mistakes with the construction of his dwelling. These errors became more evident in the winter season as it often rained in while it flooded outside. Over the years, he learned how to waterproof his home and manage the flooding by planting small trees. Years later, when his children became adults, he taught them how to build their homes in the same encampment. Given the decades he lived in the settlement, Aiman saw the growth of generations of families in Freedom Farm – even adopting the name "Pa" ("father") by the children and young adults neighbouring his home.

The people of Freedom Farm have organised their residential space into two main sections over the years – earmarked by a single, large palm tree. Their approach to organisation is based on similarities in language. The significance of palm tree symbolises the settling of two main groups of people by defining their locality in the settlement. This approach to organisation is attributed to the ease of communication and shared understanding of culture among residents. According to Aiman, it is also easier to bargain for space, ask for assistance, and build a sense of community among

groups of people with shared characteristics. Key members of each side were also nominated as representatives to bargain and discuss issues such as sanitation and infrastructure with landowners and the City Council. In this manner, conflict is avoided *between* the two main groups, whereas disputes are settled *within* these groups. This section briefly describes and discusses the two communities of the settlement.

4.1.1   The left-hand side: Living near the arterial road

The area to the left of the palm tree is largely populated by Cape Afrikaans-speaking families. These families came to the settlement from different parts of the Western and Northern Cape provinces. The main access road to this part of the settlement is Stellenbosch Arterial. Many of the untarred roads connecting the settlement to Stellenbosch Arterial are found in this area. The untarred roads are commonly utilised by people on foot or in vehicles. Some potholes have formed on these roads due to the weight of the cart and heavy "bakkies" (pick-up truck vehicles). It is more common to see cart-horses and drivers trotting along from settlement to the main road for work or travel; carefully manoeuvring the cart between sand, stone, and tar.

On average, the size of each family's encampment houses between one and three informal dwellings is closely constructed together. The dwellings are typically constructed out of corrugated metal sheets, wooden frames, glass windows, and wooden doors. As with Aiman and his family, the children of elder residents – and their newly formed families – are accommodated in the same encampment. Some families include shelters for keeping their domestic animals such as dogs, chickens, pigs, and horses. Dogs are especially important members of the encampment; they alert residents of strangers at their gates or act to protect their human companions and other animals. It is evident that the size of the encampment is meant to keep all related members – be they human or nonhuman – in one place for safety and security.

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4.1.2   The right-hand side: Living at the intersection

The area to the right of the palm tree is largely populated by Xhosa-speaking families. These families came to the settlement from different parts of the Western and Eastern Cape provinces. The access roads to this part of the settlement connect these residents with Stellenbosch Arterial and Robert Sobukwe Road. Many of the people living on this side of the settlement access their homes from the untarred roads adjoining Stellenbosch Arterial, with a few families utilising pathways from Robert Sobukwe Road. They can access their homes between two main directions of traffic, whereas those living on the left-hand side can only access their homes from one.

On average, the size of each family's encampment houses between one and two informal dwellings is closely constructed together. The dwellings are also constructed out of corrugated metal sheets, wooden frames, glass windows, and wooden doors. Like the Cape Afrikaans community, the Xhosa community constructed shelters for their domestic animals such as goats, pigs, and chickens.

The size of each family's encampment is smaller compared to those on the left-hand side of the settlement. Aiman mentioned that some families in this area would request payment from new families who move next to or on their encampment. This payment signified a type of agreement or permission that allowed newcomers to construct their homes there - a practice not common among the Cape Afrikaans community of the settlement.

4.1.3   The central core: Entangled actants of cart-horse assemblages

In the act of cart-horse labour, there are multiple actants with different roles in the sets of relationships observed in Freedom Farm. The type of work typically directs the nature of each group's interaction and, over time, how the relationship between individual actors develops. The following groups of actants were identified and studied. The first language of all participants was Cape Afrikaans, or Afrikaaps; a dialect of the Afrikaans

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language spoken throughout Cape Town and the greater Western Cape. For this study, they form the central core of the entanglements of cart-horse labour in the settlement:

4.1.3.1   Chadwin and Boy George

Chadwin is a young adult in his late twenties who collects scrap metal and garden refuse with one of the family horses, Boy George (Appendix VI(a)). Chadwin has a license issued by Cart Horse Protection Association (CHPA) which permits him to drive a horse and cart on public roads. He has been doing this type of work from a young age; trained by his father who was also involved with scrap metal collection over the years. During school holidays and over weekends, he trains his younger brother to drive the cart, manage the horses and shows him which routes to take at different times of the day. On days when his brother is with him, Chadwin drives the cart while his brother collects the scrap metal or garden refuse.

Chadwin occasionally takes his little son, on trips with him; they are seated quite close to each other on the cart during these trips for safety. The little boy is well-acquainted with Boy George; eagerly, he gives the horse water from a bucket or feed from a large, white bag whenever they stop for a pick-up. The males in Chadwin's family are trained in this type of work with cart-horses to provide an income that benefits both the family and the horses they keep.

Boy George is a mixed-breed working horse with a light brown and white coat (Appendix VI(b)). He is a recent addition to the family. Chadwin explained, "My pa het hom nou die dag gekoop, maa' daa's nog pêrre byrie huis" ("My father bought him the other day, but there are more horses at home"). His father purchased Boy George from his previous owner who also collected scrap metal. I recognised Boy George from a sighting in February this year on De Lay Rey Street near Uitsig. His name reminded me of the frontman for the pop band, Culture Club. At the time, the cart he pulled was registered with the name, "Boy George", on it. However, the cart that Boy George pulled with Chadwin was unmarked – without the signature yellow-and-black name plate from CHPA (Appendix VI(c)). Despite the change of ownership, Boy George still served the same function, collecting scrap metal in the Northern Suburbs of Cape Town.

Boy George and Chadwin regularly travel between Freedom Farm and a few residential areas for their work. The main areas they travel to are Belhar, Kuils River, and sometimes Eerste River. Their areas of interest lie within proximity of the settlement. A typical day of work starts at 8 a.m. to collect scrap metal and garden refuse for cash tips from these residential areas. The scrap metal is exchanged for cash at the scrap collectors in Parow Industria; their earnings from scrap collection depend on the weight and type of metal. The garden refuse is taken to the Belhar or Ravensmead Waste and Recycling Drop-Off. For this job, they receive a cash tip between R10 and R50, depending on the load size, from the homeowner or renter. If their progress in earnings for the day is slow, they would be on the road in search of material until 3 p.m.

Given the distance and strenuous labour involved with this type of work, Chadwin ensured that the horse's physical condition and well-being are taken care of. Before their trip started, Chadwin brushed Boy George's coat and fed him hay or horse feed. He carefully attached the bridle, reins, and cart. On the cart, he kept a bag of feed and a small bucket for water to take along on their trips. Talking to Boy George throughout the preparation process helped to keep him calm.

In his engagement with Boy George, Chadwin maintained verbal and non-verbal communication to build familiarity and cooperation. As observed with their morning routine, Chadwin talked to the horse in a calm tone of voice, gently stroking the body while brushing his coat. This approach to caring for the horse made it easier to manage the horse-and-cart with a heavy load on public roads – especially amid traffic.

The level of skill Chadwin employed to manage Boy George and drive the cart is one of patience and years of training. Given the years he spent driving with cart-horses, Chadwin learned how to become familiar with new horses, gain their trust, and develop a sense of understanding through verbal and non-verbal communication. Although it took a while for Boy George to fully cooperate with him, Chadwin described the experience as driving a new car. He says, "'sel'e men 'n kar, djy moen 'n bietjie sukkel" ("like with a car, you must struggle a little"). Ultimately, spending a lot of time to build a

relationship and bond with Boy George was worth it as he was able to swiftly trot the streets in search of his treasure.

4.1.3.2   Shaun, Henry, and Honeygirl

Shaun and Henry were two middle-aged adults who lived in the same encampment. They were Aiman's neighbours who lived in the settlement for decades. Together with their mixed-breed horse named Honeygirl (Appendix VII(a)), they formed a team that specifically collected wood (Appendix VII (b)) from the bush with their horse and sold it. The bush was not far from their encampment; situated along Stellenbosch Arterial, this area adjacent to the settlement was abundant in *Acacia saligna* (Port Jackson) trees. The relationship between Shaun, Henry and Honeygirl was unique to observe as their work tasks were delegated according to their skillset and purpose.

Shaun was born and raised in Freedom Farm. His father and grandfather used to keep horses for travel and special events. Through them, Shaun was taught how to raise, manage, and drive the horse and cart from a young age. During his adulthood, he chose to drive cart-horses for weddings and school proms. Occasionally, he would be involved in church bazaars where he offered horse rides around the church or an open field for cash tips. He preferred not to collect scrap metal as the income was not enough for him and his family. At present, he does not drive cart-horses anymore; he mainly travelled with his "bakkie".

The other member of this team, Henry, lived in Freedom Farm and worked with horses for over thirty years. However, he only worked with Honeygirl in recent years. He wanted to keep a horse of his own, so he bought Honeygirl from another person who lived in the Belhar area five years ago. Honeygirl's primary role was to transport Henry to the bush. He chopped logs from the trees and brought them back to the encampment. The wood logs were stacked up and cut into smaller pieces by Henry and Shaun (Appendix VII (b)). Thereafter, Shaun drove the cut-up, bundled wood to clients or places where he could sell the wood. Additionally, Shaun fixed up the bridles and reins by adding new leather or buckles (Appendix VII (c)).

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Honeygirl was a mixed-breed, working horse with a cream-coloured coat and ash-blond mane. Henry bought Honeygirl from her previous primary carer five years ago. Together with Shaun, their team divided tasks according to the skills and competencies of the individuals, contributing to the efficiency of their informal business. Henry and Honeygirl collected and transported the wood from the bush. In turn, Shaun handled the sale of the wood and maintenance of the carting equipment. Henry and Honeygirl started their working day at 8 a.m. and returned to the encampment at 1 p.m. with their load of chopped wood. Their approach to work and labour did not rely on scrap metal and garden refuse collection.

Due to the nature of their work, they spent only half of the day doing work together. The distance travelled by the horse and rider was much shorter than scrap collectors. Their time doing work together was also not dependant on the chance of gathering items for cash exchange; they went into the bush, chopped wood, and returned home. Henry and Honeygirl only did their work in the adjacent field to collect logs of Port Jackson, whereas the scrap collectors travelled to neighbourhoods far from the settlement.

Henry ensured that Honeygirl was well-cared for by maintaining her coat, feeding her regularly, and giving her plenty of time to rest. He attentively tended to the horse's needs throughout the day in a few ways. Before going out to the bush, for example, Henry brushed down the horse's coat and gave her the morning portion of feed and water. Considering that they mainly go out to the nearby bush once a day, Henry could work fewer hours in the day with Honeygirl, give her more time to rest and enjoy free time.

4.1.3.3   Reyaz, Shanté, and the "houtbos perd'

Reyaz was a young adult in his mid-twenties who managed two horses that serve different functions. Shanté (Appendix VIII(a)) was a mixed-breed horse who strictly collected scrap metal and garden refuse with Reyaz. Additionally, a young unnamed, mixed-breed horse (Appendix VIII(b)) only collected wood from the nearby bush. Both horses shared a cart with Shanté's details on it but work at different times of the day;

Shanté worked from the morning to the afternoon, while the unnamed horse worked in the late afternoon/early evening.

Reyaz had a license issued by CHPA which permitted him to drive a horse and cart on public roads. He worked with cart horses since the age of thirteen. He earned an income with Shanté by collecting scrap metal and garden refuse for cash tips. The daily earnings from scrap and refuse collection was their primary source of income. Reyaz occasionally took a family friend, Willie-boy[11], with him and Shanté on their scrap collection routes. Willie-boy was a young, teenager who was learning how to drive and manage cart-horses from Reyaz so that he also learns to earn an income. The knowledge of working with cart-horses was, therefore, passed between generations from more experienced cart drivers to young men.

Shanté and Reyaz formed a close relationship through their daily interaction. As Reyaz said, "Sy… sy's baie special vi' my. Sy bring 'n stukkie brood oppie tafel vi' my." ("She… she's very special to me. She brings a piece of bread to my table"). Reyaz claimed that a loving and attentive approach to handling new working companions was the key to becoming familiar with them more quickly.

Their routine interaction started with pre-work maintenance and care, verbal and non-verbal communication during working hours and post-work maintenance and care of the horses by Reyaz. Before the reins, bridle and cart were attached, Shanté was brushed down, fed grass, hay, or feed, and given water to drink. Her legs were also washed and checked for any bruises or open cuts that would have made pulling the cargo on the cart painful. Once she was equipped with her reins, bridles, and cart, she received a signal from Reyaz, "Ait, *bismillah[12]*, meisie" ("Ait, *bismillah*, girl"); it informed her that it was time to head for the road. Between 7 a.m. and 5 p.m., the pair was on the road to collect as much scrap metal and refuse as they could to exchange for money. However,

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[11] Participant pseudonym to protect their identity.
[12] The word that precedes all but one of the Qur'anic surahs; used by Muslims as a blessing before eating or performing other deeds (Collins, n.d.).

not every day is the same; the distance they travel, the time on the road, and their earnings for the day change, depending on a few factors.

Shanté and Reyaz may travel as far as Bothasig from the settlement in search of their goods. The distance they travelled and the time they travelled on the road may be shorter if they collect enough scrap or refuse, "As my karrentjie vol is, dan kom ek huis toe" ("If my cart is full, then I will come home"). Regardless of not travelling to the same place each day, the pair still used public roads with traffic in the early morning, at lunch time, and in the early evening. Shanté, however, was calm amid the traffic – even in the morning rush.

The unnamed horse worked shorter hours than Shanté. In the late afternoon, usually around 5 p.m., this horse was fitted with the reins and bridles as well as Shanté's cart to collect wood from the bush - much like Henry and Honeygirl. While the equipment was being fitted to the horse, Willie-boy prepared the feed and water so that the horse was fed before leaving the encampment. Given their young age, the horse still needed to be trained for travelling on public roads. Hence, the only task for the horse was to collect wood for Reyaz's home use. This was ideal as the distance between the encampment and the bush was short, so the horse was overworked before being sent out on the public roads. It also allowed Willie-boy to practice driving with the horse and cart without the stress of driving among motor vehicles on public roads. The greatest benefit for this young horse was the time for resting before and after collecting wood in the bush.

4.1.3.4   Abbi and the eleven horses

Abbi managed eleven horses in his encampment. Three horses were trained for showcasing and special events (e.g., weddings, matric balls, and funerals). The remaining seven horses alternately collected scrap metal during the week. During his childhood, Abbi observed his father and grandfather, who were also involved with raising and training "skoupêrre" (show horses). He was taught the basics of maintaining and caring for horses by his elders. From the time he learned to look after horses, it became his greatest desire to care for his horses in his adulthood. He shared his love

and passion for horses with his children who, one day, would carry on their family's skills and expertise.

The eleven horses Abbi managed serve different functions, sometimes alternating the type of work done to fulfil other obligations. Three horses – Molly, Cassidy, and Blackberry – were specially trained by Abbi to compete as show horses or carry passengers for special occasions (Appendix IX(a)). They were selected for their strong bloodline and aesthetic appeal. Cassidy has taken part in many competitions and was well-known by some of the other competitors. The remaining seven horses were working horses who – with three of Abbi's friends – collected scrap metal and refuse in exchange for cash tips. The income incurred from their days of work was shared among the workers; the friends who assisted in driving or collecting goods received an amount for their efforts, and Abbi took the remaining profit and divided it between food for his family and food for the horses.

A few of the horses were purchased by Abbi from their previous carers, while others were raised by him from the breeding pairs. When asked about the sex of his horses (i.e., whether male or female horses were preferred), he stated that it was important to only keep one, reproductively fertile male, while the rest are females. His reason for keeping the number of males low was because of males becoming dangerously aggressive if competing for females during mating season. At the time of our meeting, two of his working horses were pregnant and could not go out to collect goods. Instead, the show horses would alternately go out to work in their place.

The way these eleven horses go about their work was a well-organised endeavour. Each horse, except for the pregnant ones, would get a turn to be on the road collection scrap and refuse; working alternately to give other horses some time to rest and to prevent them from being overworked. Show horses, in turn, assisted by standing in for injured or pregnant horses to give them a chance to recover and heal. However, when it comes to performing or competing in shows or saddling for special occasions, the show horses were the only ones involved due to their specialised training. This type of training that Molly, Cassidy, and Blackberry receive enabled them to travel with two to four people using decorative carts in a more orderly fashion and to perform in shows, typically over short distances. This differed from the type of training the other working

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horses received; the main goal was to train them to manoeuvre with a cart constructed for carrying light to heavy loads on public roads – and among traffic – over longer distances.

During our conversation, the three friends returned to the encampment after a day of collecting scrap and refuse with one of the working horses. Eagerly, they told us of an incident that took place while on the road that involved CHPA. They were carrying an old washing machine on the cart with a few other items for exchange at the scrap yard; two of the men were seated on the cart with the load, while the other man sat at the front of the cart, driving the horse at the reins. As they descended a bridge on their way to the scrap yard, the weight of the total load contributed to the momentum of the moving cart, causing it to move faster than the horse. Towards the end of the bridge, the cart quickly pushed the driver of the cart against the back of the horse. Once they reached the bottom of the bridge, the horse struggled to slow down for the throng of cars before her. Within seconds, the cart tipped over foreword, taking along with it the driver, whose hands were aggressively pulled with the reins as he fell off the cart. The cart load and passengers collapsed to the side, causing a commotion – no luck that it was amid the afternoon traffic. Startled by the ruckus, the horse attempted to run off into a nearby open field, with the driver pulling tightly on reins, preventing her escape from his grip.

Thankfully, the horse was not injured, however, the three men sustained minor injuries from the fall. They immediately contacted CHPA; they arrived on the scene, collected the horse, and took her to the on-site veterinarian. While the horse was being checked for injuries and shock, the men were given first aid for their injuries. Unfortunately, a great deal of their collected goods was damaged, including a panel on the cart. Left with fewer items after the ordeal, they agreed to take the leftover scrap to the scrap yard the next day. When they returned to Abbi's encampment, the three men animatedly told us about their afternoon with the horse. The driver showed us how two of his right-hand fingers were wrapped around a piece of metal finger splint to keep his fingers straight while healing. The other two men had some plasters and bandages around their arms. While re-telling their story, the horse was given some water and food by one of the men.

Once she finished her meal, her legs were rinsed with cold water to cool her down and to check for any cuts that may have gone unnoticed (Appendix IX(b)).

The horses were routinely maintained and cared for by Abbi and his three friends. In the morning, the show- and working horses were promptly fed a mix of hay, grasses, and feed by Abbi while their water buckets were filled by one of his friends. Their coats and manes were brushed out by another friend, who meticulously checked for knots in the hair or skin lesions. The working horses on duty for the day were tacked up[13] with a bridle, reins, and a cart for loading their cargo for the day. Once the working horses returned from collecting scrap, a similar routine was followed: they were given food and water; their coats, manes, and tails were brushed; and their legs were rinsed with cold water to cool them off. After some time rolling in the sand, they were taken to their stalls where they settled to rest for the evening. Show horses had a different kind of preparation when they are competing in shows or driving for special occasions. Like working horses, they were also fed and brushed. Additionally, they were tacked up with decorative reins and bridles, often matching the colour of the cart they pulled on the day. Abbi and whoever assisted him during the show or occasion may have worn matching attire to suit the event.

Given that he worked with horses throughout his life, Abbi developed a way of handling and communicating – verbally and non-verbally – with horses. His approach to communication with horses of any age was consistent to bring about a sense of familiarity and build trust between himself and the horses. With all the horses, Abbi touched their nose, walked to them slowly, and greeted them. He spoke to them in a gentle tone of voice so that they were not startled. When tacking up the horses, he gently attached the bridles and tugged at the reins to indicate that they were going to move. The horse responded by motioning in the direction they were being led.

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[13] The term "tack" describes the equipment used to ride with a horse. To "tack up" a horse, thus, refers to the action of equipping the horse for riding or working.

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4.2 Thematic analysis

In the study of cart-horse labour in Freedom Farm, it was observed how humans and other animals develop and maintain relationships with each other through various interactions. The interactions that took place were established because of anthropomorphic needs and purposes that may benefit other animals. The animals that become entangled in human work, such as with cart-horses, were incentivised for their role as workers and companions.

The first type of analysis conducted on the empirical data sets was thematic analysis. Three main themes were identified, namely: 1) human-animal relationship development; 2) strategies of animal labour; and 3) work environment and animal well-being. These themes referred to patterns of behaviour observed in cart-horses and people, and patterns of interactions between groups of humans and cart-horses. In this section, each theme was described in a general summary of its core issues. Secondly, the core issue was expanded regarding specific examples of subthemes identified. Thirdly, a detailed and specific analysis of occurrences for the sub-themes was discussed. Lastly, the broader context of all the data sets associated with the themes was discussed in a summative analysis. Subsequently, the three themes answered the two main research questions: Do nonhuman animals have a sense of working or being part of a working relationship? Can this be a source of meaning or well-being to nonhuman animals?

4.2.1 Human-animal relationship development

The first theme of this study, human-animal relationship development, referred to the reproduction of associations between people and other animals through interactions that achieve common purposes for both entities involved. The core issue of this theme looked at the process – and actions – by which cart-horses and people formed relationships for work and companionship. This theme described how the cart-horses in Freedom Farm informal settlement came to form relationships with each other, their primary carers, and other people.

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4.2.1.1   Purpose of the human-animal relationship

The purpose of the human-animal relationship was established by a need for a source of income and companionship. A few of the cart-horses had a similar purpose – to transport people and their desired goods from Freedom Farm to a place of interest and back to the settlement. Chadwin, for example, explained his reason for forming a working relationship with Boy George:

> *Hy bring mos brood innie huis, verstaan? Hy bring oek iets oppie tafel elke dag, man. Ek kyk, ek sorg na hom oek, laat hy oek kan eet.*

> [He brings bread to the house, understand? He also brings something to the table every day, man. I look, I take care of him too so that he can also eat.]

Chadwin's relationship with Boy George was established on the need for a form of income. He already developed his skills of handling horses from his father during his childhood. Additionally, he could do the work of collecting scrap metal and refuse. However, the need for a horse was more accessible as his father assisted with the procurement and purchase of the horse, given his father's history of working with cart-horses. Working with Boy George allows Chadwin to earn an income daily to buy food for his family. In turn, Boy George was fed, cleaned, and provided shelter in exchange for his labour; pulling the cart with a load on public roads was the horse's primary function in this relationship.

Reyaz and Shanté shared in the sentiment of forming their work relationship:

> *[Sy] is vi' my baie belangerik. [Sy] bring 'n inkomste. 'is 'ie enigste inkomste wat ek kry. Sy… sy's baie special vi' my. Sy bring 'n stukkie brood oppie tafel vi' my.*

> [She is very important to me. She brings in an income. This is the only income I receive. She… she's very special to me. She brings a piece of bread to the table for me.]

The relationship between Reyaz and Shanté was established on the same grounds as that of Chadwin and Boy George. Reyaz was also taught, from a young age, how to maintain horses, however, required his horse to do his work without paying another primary carer for the use of their cart-horse. Through his relationship with Shanté, he

was also able to earn a daily income to provide for his family. Similarly, Shanté was taken care of through the provision of food, care, and shelter. One thing that stood out was the way Reyaz spoke about Shanté; interacting and forming their bond was special to him, which shows that he holds her in high regard, given her position in his life.

4.2.1.2   Years of experience

The years of experience refer to the number of years that people and horses have been engaged in their preferred type of work. Participants of this study worked with horses since their childhood. The main approach to learning about horses was usually from the older to younger generations who were related. The father would have shown their sons how to care for – and later ride with – a horse and cart. Shaun, for example, explained his childhood experience with cart-horses:

> *Ek het groot geword daa'mien. Ja, my pa en oupa het su'ke diere gehad. Ek het hie' innie Freedom Farm groot geraak. Geborteplek.*

> [I grew up with it. Yes, my father and grandfather had these kinds of animals. I grew up here in Freedom Farm. Birthplace.]

Shaun could be considered a native individual in the settlement, considering that it was his birthplace. Like Aiman, he saw the expansion of the settlement, including the birth of the younger generations. In his childhood, he observed how his paternal figures and others in the settlement managed and worked with their cart-horses. His father and grandfather were key figures in the process of developing his skills. To be taught how to ride with cart-horses was important to give him as it gave him independence by earning an income. Once he had a horse of his own, he saw a need for transport and capitalised on this venture with his horses for years before his venture with Henry, Honeygirl, and their chopped wood.

Abbi, on the other hand, grew up with other family members who were also involved with horses:

> *Kyk, soes ek groot geraak het, die mense by wie ek grootgeraak het… 'it was pêrre. Soe my verlange was altyd om 'n perd te het. Soe wat ek die geleentheid kry, en ek het die*

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*randjies om 'n perd te koop. Van 'aai tyd wat ek nou nog pêrre het, wan' ek is lief vir 'it.
My kin'e's. Soes my kin'e's oek. Toe hulle oe oopmaak, maak hulle hulle oe oop met
pêrre. That's why het ôs nou nog pêrre.*

[See, as I grew up, the people that I grew up with… it was horses. So, my desire was
always to have a horse. So, when I got the opportunity, and I saved a few Rand, I could
purchase a horse. Since that time, I have had horses because I have a love for them. My
children, like my children also. When they open their eyes, their eyes open with horses.
That is why we still have horses.]

Abbi's experience with horses during his childhood was not from his father, but other
family members. However, the knowledge of horses – both for maintenance and riding –
was passed to him when he was taught by his elders. The desire to have his horse was
established by his regular interaction with horses as a child. After saving some cash, he
was able to purchase his first horse whom he trained to collect scrap metal. Over time,
he was able to purchase more horses from their previous primary carers, later pairing a
male with a few females for breeding more horses. The fillies that are born are either
kept, given away or sold to other cart-horse riders. Given his current experience with
horses, he can teach his children how to care for them.

The horses in the settlement have also experienced their years of work and
companionship with other primary carers. Not much information is known about the
horses' history. Perhaps, at one stage, cart-driver knew about the horse's previous type
of work. This may revel small details of their previous relationships and types of
interactions. Henry, for example, described where and from whom he purchased
Honeygirl five years ago:

Ek het [haar] soe gekoop by 'n an'e ou in Belhar. Hy's nou dood.

[I bought her from another man in Belhar. He is now dead.]

Henry did not know much about the person who previously cared for Honeygirl.
However, from the interview with him, it could be said that the person was willing to sell
Honeygirl to Henry at an undisclosed amount despite not knowing the circumstances of

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the person in question. For Henry, it was more important that he have Honeygirl with him to fulfil his tasks in the bush and have his source of transport and companionship.

4.2.1.3   Becoming familiar

The degree of familiarity between workers refers to the close acquaintance with, or knowledge of, horses by humans. The human's experience of handling horses overall was greatly influenced by the method and degree to which humans routinely interacts with the horse. Knowledge and execution of feeding times, frequent maintenance and care, and the type of communication between human and horse builds closer acquaintances between them. It established a sense of trust for good work relations. Participants of this study described their approach to becoming familiar with their cart-horses. For example, Reyaz's mentioned his routine with Shanté and the "houtbosperd"[14]:

> *Vir my was 'it baie gou om gewoont te raak aan haa' en sy gewoont te raak aan my. Ek hanteer haa' as… Hoe kan ek nou sê? As… ek gee baie liefde aan haar. Ek gee baie aandag aan haa'.*
>
> [For me, it was quick getting used to her, and for her to get used to me. I handle her as… How can I say? When… I give her a lot of love. I give her a lot of attention.]

The experience of working with cart-horses for over thirteen years enabled Reyaz to easily become familiar with new horses. He worked with Shanté and the "houtbosperd" for nearly three years. As they formed their work relationship, Reyaz took the approach of being gentle when handling the horses to build trust. This resulted in Shanté and the "houtbosperd" becoming familiar with Reyaz, and vice versa. When observing Reyaz as he tacked up the "houtbosperd", she appeared to respond positively to his verbal and non-verbal cues; remaining calm throughout the process of being equipped to collect wood. This was beneficial as they developed a way of communicating with each other to better cooperate when completing work-related tasks.

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[14] "Houtbosperd" is Afrikaans word describing a horse that primarily does work in the bush (*houtbos*: wood bush; *-perd*: horse).

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Chadwin, on the other hand, only recently got to know Boy George after his father purchased the horse from his previous primary carer. However, his prior experience with horses gave him a subtle advantage of developing familiarity between them:

> Chadwin: *My pa het hom nou die dag gekoop maa' daa's nog pêrre byrie huis.*
> Me: *Okay. Soe hoe lank hêrrit geneem om met hie'rie p-, om hie'rie perd "familiar" te raak met meneer? Hoe lank het… ja.*
> Chadwin: *Baie lank, man.*
> Me: *Mmm. Het djy soe 'n bietjie gesukkel innie begin?*
> Chadwin: *Ja, innie begin. Djy moen mos eerste soe, amper 'sel'e soes 'n kar ry, man. 'Sel'e men 'n kar, djy moen 'n bietjie sukkel, right? Soe.*

> [Chadwin: My father purchased him the other day, but there are more horses at home.
> Me: Okay. So how long did it take for you and this h-, to get this horse to become familiar with you? How long did it… yes.
> Chadwin: Very long, man.
> Me: Mmm, did you struggle a little in the beginning?
> Chadwin: Yes, in the beginning. But you must [struggle] in the beginning, almost the same as driving a car, man. The same with a car, you must struggle a little bit, right? Like that.]

From this extract, we see that Chadwin had some difficulty becoming familiar with Boy George at the start of their work relationship. Becoming familiar with the cart-horse was compared to becoming familiar with driving a motor vehicle. This comparison of the horse to a car shows a juxtaposition in his perception of learning to drive two different modes of transport. Irrespective of one involving an animal and the other involving motor mechanics, the approach to becoming familiar is considered principally similar.

4.2.1.4 Communication

Becoming familiar is greatly influenced by the human's approach to communication with their cart-horse, and how the cart-horse responds to the human's cues and signals. Since humans and other animals communicate mostly by verbal and non-verbal signals,

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we can still observe their approach to communication and how they respond to each other over time. In conjunction with routine maintenance and care, the repetition of verbal and non-verbal signals trains the cart-horse to identify certain cues by way of operant conditioning. These signals may prompt the cart-horse to respond in a particular way, indicating a type of understanding between them and the primary carer.

Reyaz, for example, makes use of verbal and non-verbal communication as a signal to Shanté that they will be leaving their encampment:

> *Ek gaa' net opklim, se ek "Ait, bismillah meisie." Da' gaa' ek pad toe.*

> [I would just climb [onto the cart], then I will say, "Ait, *bismillah* meisie". Then I ride to the road.]

The word, "Ait" was a signal to Shanté that she needs to start moving. Given his Islamic faith, Reyaz says "bismillah" as a way of blessing their journey ahead. Reyaz follows a similar approach to signal 'the "houtbosperd" that they will be leaving the encampment to collect wood. During our conversation, Willie-boy fed the "houtbosperd" with fresh grass and provided water while Reyaz tacked up the bridle, reins, and cart. While ensuring that the equipment was fitted securely, Reyaz rubbed the nose of the "houtbosperd" as a means of keeping her calm. A gentle tug at the reins signalled the horse to move toward the encampment's gate, ready to exit. The horse's response was calm, following Reyaz and Willie-boy's instruction.

Chadwin and Boy George also engage in a form of verbal and non-verbal communication when travelling on the road:

> *Ek [sal] vir hom sê "Aita-aita", [dan] sê ek "ôs ry", da' gat ôs nou. Gat wêk ôs nou. Da' gat wêk ôs.*

> [I would say to him, "Aita-aita", then I'll say, "We are going to drive now", then we will go. We go off to work, then we'll work.]

In this instance, the short phrase, "Aita-aita" became the verbal signal from Chadwin to Boy George; in effect, telling the horse to start moving from a rest position. The

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difference between Chadwin's approach to communication, compared to that of Reyaz, was more reliant on non-verbal signalling to Boy George. One Wednesday morning, when the pair came turned into my street to collect scrap, I made a point to observe the way they would communicate with each other as they travel off. Chadwin got comfortable in his seat, swiftly grabbing a hold of the reins. As the reins are gently tugged with each "aita-aita", the horse started trotting with his hooved feet in a two-beat diagonal gait; three short trots initiated motion before taking longer strides as he gained momentum. The horse's response to the non-verbal signals from the rider was that of cooperation and synchrony.

4.2.1.5 Cooperation

Cooperation referred to the action or process of people and horses working together. Among this study's participants, it was observed that cooperation was achieved through the positive outcomes of verbal and non-verbal signals established through familiarity between people and horses. Perhaps one of the greatest examples of cooperation observed throughout this study was in Abbi, the eleven horses, and his three friends who assist him:

> *That's why, that's why ek het… Laaste moen ek gery 'et innie Waterfront toe los ek 'it. 'is amper soes vi' 'n advert gewees. 'sel'e mennie troues, as ek troues oek moen ry en 'is 'n bietjie ongemaklik geryery vi' my, da' los ek. Wan' as ek vi' hulle 'n prys gat moet se… Wan' ek moen klaa' nou vi' my, vi' een wat saam my gaan, nou moen ek 'ie een wat 'ie bakkie ry mennie pêrre aan, nou moen ek 'ie een wat 'ie bakkie mennie karre aan, ôs moen alles 'aai uitwerk. Op 'ie ou einde vannie dag, ka' jy dit 'ie vi' peanuts doen 'ie.*

[That's why, that's why I… Last time, I had to ride [with the horses] at the Waterfront, but I left it. It was for an advertisement. The same with weddings; if I must ride for a wedding, and the drive is too uncomfortable for me, then I'll leave it. Because if I had to say the price [to them] … Because I must [make provision for] me, the one who goes with [to assist] me, the one who drives the "bakkie" with the horses [in the horsebox], the one who drives the "bakkie" with the carts on, we must work out [the cost] of everything. At the end of the day, you can't do it for peanuts.]

In the extract above, Abbi spoke about the logistics of working on special occasions with the showhorses. To transport the horses to the work location, there are a few other people that are involved. These people fulfil important roles: transporting the horses by travelling with the horsebox; transporting the carts used to carry the people (or casket in the case of a funeral); and one or two assistants to help him handle and tack up the horses. From the fee he asked as payment for services provided by the horses, Abbi ensured that he fairly compensated the extra people who agreed to assist him. He also ensured there were enough of the profits left to purchase feed and other necessities for the horses. Lastly, he received the remaining profits to take care of his family. This level of cooperation between people and cart-horses revealed an orchestrated effort to fulfilling work tasks toward the common goal of incurring an income.

4.2.1.6 Sense of companionship

The sense of companionship referred to the vital associations shared between people and cart-horses that brought about a sense of togetherness. It was observed in the description of human enjoyment when working with or caring for, their horses. Similarly, the horse's body cues and the likelihood of resistance when being handled by the human may serve to indicate a feeling of enjoyment or comfort when in the presence of their primary carers. Henry described his companionship with Honeygirl in the simplest of ways:

> *Wat ka' ek vi' jou sê? Ek is baie lief vir [die perd].*
>
> [What can I tell you? I love [the horse] very much.]

Henry and Honeygirl worked together for five years and developed a close bond with each other over time. The sense of companionship influenced how well the pair works together. His love stipulated his gentle handling skills and the acknowledgement of the horse's needs. He would not hit her if she was uncooperative or talked in a loud or aggressive tone of voice. Honeygirl's response to Henry's interaction was calm and settling.

4.2.2   Strategies of animal labour

The second theme of this study referred to the strategies of animal labour employed by participants. It was described as a plan of action designed to achieve long-term aims through animal labour. Cart-horses participated mainly in hard, physical labour characterised by external constraints that are rigid, i.e., the pulling of the cart. The core issue of this theme was concerned with the individual activities required to complete eligible tasks by assessing the associated costs and efforts involved.

4.2.2.1   Work goals and objectives

The work goals and objectives referred to the achievable, long-term outcomes (goals) and measurable actions to achieve their overall goals (objectives) relating to activities that require mental or physical effort. This was done to achieve a purpose or result by people and cart-horses. Some of the participants generally talked about the reasons for the type of work they do and how certain issues affected the way they went about doing their work with cart-horses. The main issue of work goals and objectives was the availability of jobs for work that impacted the time spent doing the work – including the income they earn. Chadwin and Boy George, for example, experienced that their daily income is not consistent:

> *[Dit] hang af hoeveel werk ek kry virrie dag. Ôs kry nie elke dag goed byrie mense nie.*
>
> [It depends on how much work I get for the day. We don't get things from people every day.]

Chadwin knew that each day would not produce the same outcomes in terms of earnings. They were primarily involved with collecting material for cash exchange which was proven variable in his experience. Some days, very little scrap was collected including any extra tips received for removing refuse. Even if they were able to collect material, the worth of the scrap metal exchanged may have been of less value than they expected. The income earned depended on the type of scrap metal exchanged and the value of the tips made for removing refuse from people's homes.

Type of work done included extra tasks that occur before or after payment, as with Reyaz and Shanté:

Ek ry vullis weg. Ek wat enige unwasted stuff en broken appliances. Anything that I can maybe use at home or so, I take it away, ja. Die scrêp, vat dit na die scrêp yard toe. Recycle 'it by die scrêp yard. Da' kry ôs 'n paar randjies.

[I drive away refuse. I take any unwasted stuff and broken appliances. Anything I can maybe use at home or so, I take it away, ja. The scrap [will be] taken to the scrap yard. Recycle it at the scrap yard. Then we would get a few Rands.]

Here, I saw that scrap metal was taken to the scrap yard after enough material was collected for the day in exchange for cash incentives. Similarly, refuse was taken to the recycling plant. It was in these tasks that earning their income was the true outcome. Factors associated with travelling towards places of interest and preparing the horse for a day of work were intermediary tasks that lead to incentivised tasks.

The type of work also dictated the locality of their place of business as well as the starting time of the hours worked for one participant, Henry:

Ek kap net hout. 'is net hie' agte' innie houtbos.

[I only chop wood. It's just here behind us in the bush.]

Henry went to the bush with Honeygirl for approximately 5 hours a day, at 8 a.m. and ending at 1 p.m. Some days, if Henry could chop many pieces of wood in a short amount of time, they returned to the encampment before 1 p.m. As soon as he filled the cart, he returned home. I deduced that Henry's objective was to chop a cart full of wood to earn an income.

4.2.2.2   Distance travelled

The distance travelled refers to how much ground a cart-horse and rider or riders have covered during trips. Distance travelled was greatly determined by the type of work they do, the areas where they conducted their preferred work types, and to a certain degree their work goals and objectives. Participants collected scrap and refuse travelled between the settlement and residential areas within a few kilometres' proximity to the settlement. Chadwin and Boy George, for example, travel to the residential areas close to Stellenbosch Arterial:

Ek ry miskien Kuilsrivier, da' ry ek miskien Belhar daa' tussen 'ie plek, Malibu, Eersterivier, daa' rond.

[I might drive to Kuilsriver, or perhaps to Belhar, Malibu, Eerste River, around those places.]

By choosing to collect material in neighbourhoods along Stellenbosch Arterial, Chadwin decided to travel along a public road that was more accessible to him and the horse. It was easier for them to navigate to the destinations on this road as it connected with the settlement. In retrospect, however, the distance was longer for the horse to pull a cart with a load as these neighbourhoods were much further away from the encampment.

Reyaz and Shanté also preferred to collect the material in neighbourhoods further from their encampment:

Ek ry hie' van af tot in Bothasig.

[I drive from here up to Bothasig.]

One of the possible reasons for them travelling this far away from the settlement could be the perception of wealthier neighbourhoods being more valuable. In terms of the material collected and all the cash tips they received, Reyaz had a better chance of collecting more valuable scrap metal in these neighbourhoods. At the scrap yard, certain scrap metals were valued more than others (Price of Scrap Metal, 2022). For example, nickel and tin were valued at R467.07 per kilogram (kg) and R377.98 per kg respectively. Copper and brass were priced between R144.36 per kg and R113.36 per kg respectively. Zinc, aluminium, lead, and aluminium alloy were priced between R53.19 and R32.00 per kg. The metals that received the lowest cash incentive per kilogram were steel rebars (R11.05 per kg) and steel scrap (R5.92 per kg). The idea is that more valuable scrap metals would be collected in wealthier neighbourhoods further from the settlement.

For Shaun, Henry, and Honeygirl their work was situated even closer to home. The bush where they collected the wood logs was adjacently located to the settlement.

Considering their encampment was next to Aiman and his family, the distance the travelled was not much further. Shaun explained Henry's route with Honeygirl:

Die oom gaa' mos nou na sy neef toe, sê soe Phillipi. Anders is hy hie' agte' innie houtbos.

[The uncle goes to his cousin in Phillipi. Otherwise, he will be here in the bush at the back.]

Shaun's involvement with Henry and Honeygirl was mainly with the processing and sales of the Port Jackson logs. Henry, however, was more closely involved with Honeygirl. Not only did they work together in the bush, but they also travelled to neighbourhoods surrounding the settlement. When necessary, they would travel to Cravenby to buy groceries. The journey was approximately 3.7 km if travelling on 35th Street and Balvenie Avenue. When he visited his cousin in Phillipi, their journey would approximately be 11.8 km via Duinefontein Road. In essence, Honeygirl travelled a shorter distance for the work she did with Henry. However, they travelled much further for other purposes.

Cart-horses that were involved in shows and special occasions travelled varied distances. It depended on the occasion and where it took place. In certain instances, they travelled to neighbourhoods close to the settlement and at other times they needed to transport the horse and cart with a "bakkie" and horsebox. Abbi explained how he attended weddings with the show horses:

Me	*Waa' het meneer al troues gery?*
Abbi	*Troues gery in Belhar, innie Delft in, innie Riviersonderend.*
Me	*Sjoh! Nou hoe het meneer daa'n'toe getrevel mennie perd?*
Abbi	*Men 'n bakkie en 'n horsebox.*

[Me	Where have you driven for weddings before?
Abbi	[I have driven for] weddings in Belhar, in Delft, [and] in Riviersonderend.
Me	*Sjoh*! Now how did you travel with the horse to those places?
Abbi	With a "bakkie" and a horsebox.]

Show horses were valued for their aesthetic appeal. It was highly favoured among people to include horses with decorative carts and bridles to suit the theme of their special occasions. The desired characteristics of these kinds of horses were smooth coats, no visible injuries, and a health body condition. To prevent exhaustion and possible injury during transit, show horses were transported in a horsebox attached to a "bakkie". This was also the preferred mode of transporting horses across longer distances. Compared to those working horses who collected scrap and refuse, or wood in the bush, show horses were not physically travelling to their work location, but were transported to maintain their condition and aesthetic value.

4.2.2.3 Type of work

The type of work referred to the categories of work that included a set of job functions requiring the performance of a common set of tasks and included several jobs. It was characterised by the type of labour required by people and cart horses. Working with cart-horses on one specific type of job included several smaller jobs to complete the primary task. Cart-horses primarily involved with scrap and refuse collection performed the labour by pulling the cart with a load. The load comprised the person who has the horse at the reins, one or two people to assist the rider, and travelling on public roads through traffic. The rider's job was to manoeuvre the horse with the reins and bridles. The rider also vocalised a call to signal the presence in a neighbourhood offering the service and handling money.

Chadwin, for example, called out "Enige scrêp?" ("Any scrap?") as he entered and existed our street. This call signalled the residents that he was in the street with a cart-horse looking for scrap material. Some days may be quiet; no-one would come outside to give their scrap or refuse to him in exchange for a tip. Some day he received a response or two, where people may wave at him to come around to their house for a few items.

Cart-horses who primarily collected wood experienced their work tasks and labour in the bush and not on public roads like scrap- and refuse-collecting cart-horses:

Maa' die an'e' mense hie' is 'ie in ''ie bedryf wat ôs mennie hout en pêrre. Hulle is net scrêp kollek en daai ding.

[But the other people here are not in the same industry as us with the wood and the horse. They only collect scrap and those kinds of things.]

In the case of Honeygirl, she travelled to the bush with Henry. After Henry chopped and loaded the logs of wood, Honeygirl carried it back to Shaun and Henry's encampment on the cart, with Henry at the reins to help navigate their way out of the bush. When they returned, Henry and Shaun chopped up the logs into smaller pieces; the thin pieces were for fire starters and the thicker pieces were for burner logs.

Molly, Cassidy, and Blackberry's experience of work was different from Abbi's. Considering they work primarily as show horses, they conducted their labour contrastingly.

As dit scrêp is dan maak ons hom net skoon. Maa' as ôs nou 'n troue gaa' ry , dan gat ôs mos hom meer netjies maak. Ja, da' gat ôs klokkies opsit wat soe geraas maak. Ek gat die brasste opgooi en sulke goedte doen. En as ek normal goedte doen, da' ry ôs maa' met chrome tyre of scrêp tyre.

[If it is a scrap [horse], then we will just clean him. But if we are going to drive for weddings, then we will make [the horse] much neater. Yes, then we will decorate her with bells that jingle. I will put on the brass and other decorative items. And if I am just driving around doing normal things, then we will ride with the chrome or scrap tires on the cart.]

Abbi requested one or two family members or friends, who had "bakkies", to assist with transporting the horses in the horseboxes to the destination for shows or competitions. Another two or three of Abbi's family or friends came along to assist with getting the horses into the horsebox. They also assisted with feeding and taking up the horses. As for the show horses, they performed their gaits, like walking, trotting, galloping, and backing – with or without Abbi as the rider. For the scrap collecting cart-horses, they did simple maintenance like brushing and feeding the horse. What was interesting to note about the script and show horses was the difference in carting equipment. Scrap-

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collecting horses pulled a cart with scrap or chrome tires. Show horses, however, pulled a more decorative cart with new wheels and a little canopy (Appendix IX(b)).

<p style="text-align:center">4.2.2.4   <u>Work seasons</u></p>

The time of year that work was done between people and cart horses refers to the seasons in which they are most and or least actively working. The main issues with work seasons were that rain or extreme heat greatly affects the cart-horse's ability to travel long distances. Rain decreased the traction of the horse's hooves on the tarred roads. This increased the likelihood of the horse slipping and injuring themselves while they pulled the cart to load any possible passengers. Extreme heat, on the other hand, increased the likelihood of exhaustion and dehydration and cart horses. It weakened their ability to pull the cart with a load more efficiently. Participants in the study mentioned the seasons when they most likely work and least likely will travel out of the encampment, for example, Chadwin and Boy George:

> *Sien hie' by big days wêk ek 'ie meeste. Chris'mis tye wêk ek 'ie meeste. Da' maak 'ie mense mos nou 'aai yardte skoon of soe. 'aai is mos 'ie tye wanne ek 'ie meeste wêk. Da' wêk ôs elke dag.*

> [See, when it's the Big Days, I work the most. [Before] Christmas time, I work the most. [During this time] people clean their yards or so. The is the time I work the most. Then we work every day.]

Central to the scrap and refuse collector's work was the actual material they collect; more so, the availability thereof to exchange for cash. In the summer months, particularly in December, Chadwin and Boy George collected the most scrap and refuse. It was also the time of year when most people cleaned their homes for the festive season by removing all their unwanted goods. Most working professionals received a 13th cheque or Christmas bonus, enabling them to replace older appliances if necessary. They also did minor repair work in and around their homes during this time. People also prepared their gardens for the summer months. Old appliances and garden refuse, such as tree branches and bags of grass, was easily transported to the waste management plants with a cart. The cart-horses involved with this type of work were

thus in great demand for their services; acting as an accessible resource, cart-horse labour assisted in the removal of waste from homes at an affordable price.

Reyaz and Shanté generally worked throughout the year. However, on rainy days Reyaz was a little more cautious:

Me	*Okay. Ry meneer uit as dit reën?*
Reyaz	*Ha-ah. As 'it reën dan bly ek by die huis, gee die perd rus sodat sy nie siek raak 'ie.*
Me	*Ja. As 'ie perd nou siek is, hoe sal meneer weet die perd is siek? Ek ken nie baie van pêrre nie, soe hoe sal meneer beskryf as die perd nou siek is?*
Reyaz	*Sy gaan vi' my 'n sign gee. Sy gaa' my wys sy gatie iet 'ie, sy gat my wys sy gatie water drink 'ie. Da' moet ek mos nou wiet daa' is iets wrong men haa'.*

[Me	Okay. Do you drive out when it rains?
Reyaz	Ha-ah. When it rains, I will stay at home, and give the horse time to rest so that she does not get sick.
Me	Yes. If the horse is sick, how will you know the horse is sick? I do not know much about horses, so how would you describe a sick horse?
Reyaz	She will give me a sign. Sy will show me that she is not going to eat, she will show she will not drink water. Then I must know that there is something wrong with her.]

Reyaz ensuredw that his horses were kept in healthy condition by keeping them indoors when it rains. Cape Town is a winter rainfall region; the heavy rains usually occur between May to August; the wettest month for this year was June with an average rainfall of 93 mm in winter. The colder months proved to be less successful for scrap and refuse collectors. Rain weather meant that they could not do work. Horses cannot pull the cart and load in these conditions. Whatever they collected might have also gotten wet and be unusable (in the case of scrap metal). Another reason to avoid having the horses out in the rain, as Reyaz explained, was to prevent the horse from getting sick. Signs of illness in horses were loss of appetite and dehydration, on account

of the horse not drinking much water. This indicated to Reyaz that the horse needed medical attention. A sick horse was unable go out and work, which meant there would be no daily income and alternate means would have to be arranged.

Shaun and Henry's work also occurred in any season; however, the rain may impede them from working with Honeygirl:

Shaun	Nee, ein'lik net 'ie reëndae nie, gaa' ôs 'ie uit 'ie.
Me	Soe ongeag as dit winter is, hy ry nog?
Shaun	Ja, hy ry ja. As dit mos nou ein'lik reëndae is, da' gaan hy nie uit nie.

[Shaun	No, if it rains, then we will not go out.
Me	So, regardless of whether it is winter, [the horse] will still be driven out?
Shaun	Yes, [she] is driven outside. If it is a rainy day, then [she] will not go out.]

The seasons did not impede their ability to collect wood in the bush; the only exception was rain weather. The introduced species, Port Jackson, became invasive in the Cape Flats sand fynbos vegetation type that once existed in this area. These trees were abundant throughout the year, which made it possible for them to collect wood in any season. However, rain weather impeded the horse's movement through the sandy soil of the bush. It was also considered bad for the horse to be working in those conditions.

4.2.2.5   Working time

The working time referred to the period a person and a cart-horse spend during incentivised labour. The core issue of cart-horse working times was observed in the time spent performing work tasks, including the labour effort. The time that people and cart-horses spent doing work together was incentivised differently. It was influenced by the type of work they do and their prospective income. Cart-horses were incentivised with food purchased with the income incurred for their labour. People, on the other hand, used the remaining profits to purchase food for their families, materials for the stables or dwellings, and food for any other animals they also cared for. Reyaz explained the hours he and Shanté spent collecting scrap and refuse:

Me	*Hoeveel trippies in 'n dag maak meneer mennie perd?*
Reyaz	*Sometimes I make one trip, sometimes I make four, five trips. Like in today, I didn't make any trips.*
Me	*Mmm. Okay. En van hoe laat tot hoe laat is meneer uit mennie perd as meneer wel uitgaan?*
Reyaz	*Sometimes from 07:00 'til 17:00.*

[Me	How many trips would you make with the horse in a day?
Reyaz	Sometimes I make one trip, sometimes I make four, five trips. Like today, I didn't make any trips.
Me	Mmm. Okay. And from what time to what time will you be out with the horse when you do go out?
Reyaz	Sometimes from 07:00 'til 17:00.]

The period spent collecting scrap and refuse did not occur in one, long trip for Reyaz but may consist of several trips that lasted approximately ten hours. As he explained, he made a total of five trips in a day with Shanté, depending on the weather and the amount of material they collect. For the horse, this translated to the maximum number of hours she spent travelling on public roads and pulling the cart with the material.

Chadwin and Boy George have a similar approach to their working hours:

Sê maa' ek ry 8 o' clock vannie huis af tot 3 o' clock toe, da' ry ek miskien tot 3 o' clock toe. Daa' vanaf ga' rus sy maa' net weer. Sy kos, sy water.

[Say I leave home at 8 o' clock until 3 o' clock, then I will drive out until 3 o' clock. From then on, she will rest. She gets food and water.]

In contrast to Reyaz and Shanté, Chadwin and Boy George only spent a maximum of seven hours doing their work together. They also made one trip in a day that lasted the full seven hours. The hours spent working was less if they met their work goals and objectives for the day. Boy George's labour of pulling the cart and travelling on public roads was less when compared to Shanté – even with the maximum number of hours they worked.

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Henry and Honeygirl generally worked much shorter hours compared to Reyaz and Shanté, and Chadwin and Boy George:

Henry   Ek span hom innie oggen'e. Ek gaa' 08:00 bos toe da' kap ek my vraag. As my vraag vol is da' kom ek hom skoonmaak en in span.

Me   Mmm. Hoe laat kom meneer dan terug?

Henry   Sê soe 13:00 van 08:00 af. 13:00.

[Henry   I get her ready in the morning. I go to the bush at 8 AM to cut my load [of wood. When my cart is full, I will come home and clean her.

Me   Mmm. What time would you normally return?

Henry   Say from 8 a. m. until 1 p. m.]

The working hours for Henry and Honeygirl were approximately five hours. The amount of time it took to chop the wood did not take the whole day like the scrap and refuse collectors. As soon as he chopped his load of wood, Henry and Honeygirl made their way back to the encampment. Here, the horse was given food and time to rest. In the meantime, Henry and Shaun processed the wood for sale later in the day.

4.2.2.6   Income

Income referred to the incentives received in exchange for goods and services. Cart-horse labour was incentivised in several ways – to the horse and the person (or people) involved. The income received depended on the type of work done, the season, and the frequency of work. Scrap and refuse collection were incentivised by payments for removing refuse, the exchange of scrap metal, and the recycling of large quantities of plastic or glass items. Chadwin and Boy George, for example:

Man, dit hang af. Miskien, miskien R50 biejtie vullis, oryt? Oor 'n uur weer, kry djy miskien, of somtye kry djy niks 'ie. Da' het djy net 'aai R50 bietjie vullis of 'aai R30 of R20 bietjie vullis.

[Man, it depends. Maybe, maybe a R50's worth of refuse, alright? Over an hour, maybe you will get something, or sometimes you get nothing. Then you only have that R50's worth of refuse, or that R30 or R20's worth of refuse.]

The daily income earned by Chadwin and Boy George was a game of chance. It was greatly dependent on the availability of material for collection, the amount of material that is suitable for cash exchange at the scrap yard or recycling centre, and whether they are given cash tips for their service of removing material from homes. During the warmer months – the period of high work availability – they accumulated a higher value in cash tips per day. Contrastingly, it was more difficult to earn a similar value in cash tips per day in the rain season.

Shaun, Henry, and Honeygirl rely on the sale of wood collected:

Henry	*Ek kap net hout.*
Me	*Oh, okay. En wat doen meneer mennie hout? Verkoop julle dit?*
Henry	*Verkoop 'ie hout, ja.*
[Henry	I only chop wood.
Me	Oh, okay. And what do you do with the wood? Do you sell wood?
Henry	Yes, we sell the wood.]

Although they did not disclose the average income from selling the wood, it appeared that this type of work was profitable for them. It gave Henry a chance to go out into the bush with the horse while Shaun fixed carting equipment and sale of the wood. They sold their wood to families living close to their encampment. Sometimes Shawn drove the wood to a place where he can sell it in bulk. Their income relied on the physical labour associated with collecting the wood and the profits earned.

4.2.2.7   Team members

Team members referred to the number of additional people or cart-horses involved with cart-horse labour. Teams were mostly encountered where cart-horses or groups of cart-horses were engaged in one or more types of work. Human team members helped with collecting material, caring for horses, or assisting the horses' primary carer with work tasks. For example, Reyaz had Willie-boy and the "houtbosperd" collect wood while he and Shanté focused on collecting scrap and refuse:

Me	*Wie an'e's wêk saam meneer en meneer se perd?*
Reyaz	*Ek en Willie-boy.*
Me	*En wat is Whitney van meneer?*
Reyaz	*Hy's maa' ôsse vriend.*

[Me	Who else works with you and your horse?
Reyaz	[It is just] me and Willie-boy
Me	And what is Willie-boy to you?
Reyaz	He is just one of our friends.]

In this team, I saw an additional human-horse pair that served similar functions as Reyaz and Shanté but engaged in a different type of work. Willie-boy mainly assisted Reyaz by feeding Shanté and "houtbosperd". Additionally, he took the "houtbosperd" to collect wood in the bush. The task of collecting wood for use in their encampment did not bring in an income; the wood was for home consumption as an alternative, non-electrical heat source. It mainly took place in the afternoon when Willie-boy returned from school and Reyaz returned with Shanté from collecting scrap and refuse. Both horses were in the capacity of pulling a cart with a human at the reins; the main difference was in the distance they travelled and the cargo they carry.

Abbi managed his show horses with great assistance from his family members:

Me	*Okay, uh, wie an'e's wêk met meneer en 'ie pêrre nou? As meneer nou troues ry en soe?*
Abbi	*Haakim[15], maa' hy's 'ie nou hie' nie. Hy's op college.*
Me	*Oh, okay. En die persoon is nou wie?*
Abbi	*Hy's my suster se klong. Hy en my broertjie sal nou saam.*

[Me	Okay, who else works with you and the horses? That's if you are driving for weddings and things like that.
Abbi	Haakim, but he is not here now. He is at college.
Me	Oh, okay. And who is this person to you?

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[15] The name, Haakim, is a pseudonym used to protect the participant's identity.

Abbi,   He is my sister's son. He and my brother will accompany me.]

Abbi said that he managed his show horses with the help of his brother and his nephew. Their main role was to assist with the maintenance and care of these horses every week. They also assisted with handling the horses before and after transporting them to their destination for special occasions or shows. Abbi entrusted close family members with these tasks. In contrast to the show horses, the scrap and refuse-collecting horses were taken care of by three of his friends. These friends assisted him with collecting material for cash exchange.

Shaun briefly mentioned his working relationship with Henry and Honeygirl:

> *Nee, 'is net daai meneer wat ek met werk. Die ou het ein'lik vier op 'ie yaardt, maa' net die een werk.*
>
> [No, it is only that man (points to Henry) who I work with. He has four horses in the yard, but only one works with us. no]

Shaun's primary purpose was to assist Henry with processing and transporting the wood that they collect in the nearby bush. When Henry and Honeygirl returned from the bush with their load of wood, Shaun assisted Henry by unloading the wood and placing it on the ground within their encampment. Thereafter, the two men chopped the wood and loaded it onto Shaun's bakkie. Shaun transported it to potential buyers or sold a few bundles to their neighbours in the encampment.

Chadwin and Boy George mainly worked alone. However, during the school holidays Chadwin's younger brother, Jason[16] joined them:

Me	*Wie anders werk saam met meneer?*
Chadwin	*Net ekke en my broertjie, Jason.*
Me	*Oh, okay. Hoe oud is hy?*
Chadwin	*Hy is nou vyftien jaa' oud.*

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[16] The name, Jason, is a pseudonym used to protect the participant's identity.

Considering that his brother was only fifteen years old, Chadwin and Boy George were only assisted during the school holidays every three months. Jason accompanied Chadwin on his trips and helped him to give food or water to Boy George. He also helped to load the cart with scrap or refuse. His involvement with the cart-horse was beneficial for two reasons; the work tasks associated with collecting scrap and refuse were shared, and he was allowed to learn the tricks of the trade from his older brother.

4.2.3   Work environment and animal well-being

The last theme of this study, work environment and animal well-being referred to the physical location where people and cart-horses worked, and the impact this location had on the well-being of the cart-horse. The core issue of this theme looked at conditions that cart-horses and people experienced in locations where they worked. It also looked at how these conditions affected the well-being of cart-horses.

4.2.3.1   Response to the work environment

Response to the work environment referred to the acts, feelings, or thoughts in response to a situation or event by the cart-horses in the location of their work. Horses are large animals that, by nature, are easily startled by noise or sudden movement. Their reaction to busy and noisy environments may serve to indicate that the horse is ill at ease, as explained by Chadwin:

Chadwin: *Ek klim af, 'an vryf ek sy koppie. Right? Dan is hy kalmeer weer*

Me: *Hoe lyk sy lyftaal as hy gestres is? Trek hy baie aan 'ie leiband of...?*

Chadwin: *Ja, hy trek baie aan 'ie leiband, ja. Miskien, hy skrik miskien nou vi' 'n trok, Oryt? Da' moen ek hom nou in hou en praat saam hom nou weer.*

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[Chadwin: I climb off [the cart], then I rub his little head. Right? Then he calms down again.

Me: How is his body language when he is stressed? Does he often pull on the reins or…?

Chadwin: Yes, he often pulls on the reins, yes. Maybe, maybe he gets frightened of a truck [passing by]. Alright? Then I must rein him in and talk to him again.]

Observing when the horse was uneasy was vital to ensuring that he did not become stressed. Chadwin took the time to climb off the cart to calm the horse down. Here he employed a few tactics. He started by carefully reining the horse to a halt on the side of the road. He gently rubbed the head of the horse while talking in a calm voice to ground the horse's overstimulated senses. The horse responded by standing still and progressively ceased the bucking of his head.

Similarly, Abbi briefly described the experience with his horses:

Som pêrre lyk 'ie geraas 'ie en som pêrre is fine merrit.

[Some horses do not like the noise and some horses are fine with it.]

Abbi explained that some horses were used to noisy environments, while others were more sensitive to them. A horse may grow accustomed to a particular environment if their owner raises them in similar spaces. For example, if their encampment frequently bustles with activity, the horse easily adjusted to a noise environment. In contrast, if their encampment did not have much activity going on, the horse may find it difficult to adapt to busy environments, especially amid traffic.

Similar to these two participants, Reyaz commented that Shanté maintained a sense of calm amid the noise:

As sy vol stress is? As sy nie stil staan 'ie, dan is sy vol stress. In 'n stil area is sy, is sy kalm. Sy's stil, sy's kalm. Geraaserige area ga' sy rond staan.

[if she is stressed? If she does not stand still, then she is stressed. She will be calm in a quiet area. She stands still, she is calm. In the noisier areas she will become restless.]

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Reyaz relied on the horse's body language during trips to indicate whether she was under stress. He paid close attention to her posture and the environment that they were in. He needed to be vigilant for signs of stress while he was on the road with the horse. Like Chadwin's approach, Reyaz attempted to maneuver the horse and cart to a place of safety, gave her some food or water, talked gently to her, and rubbed her head to calm her down.

<div align="center">4.2.3.2   <u>Maintenance and care</u></div>

Maintenance and care referred to the process of preserving the condition of cart-horses by ensuring the provision of their health and well-being. Cart-horses were observed to use their bodies to do labour, such as pulling the cart and travelling long distances. This labour advanced the completion of smaller work tasks to reach daily work goals and objectives. Such laborious activities was taxing on their body's overall condition and, if not properly maintained and cared for, resulted in a weakening of their body structure and a greater likelihood of injuries. Reyaz shared sentiments of maintenance and care regarding Shanté and the "houtbosperd":

Reyaz	*Borsel haa' ee'ste af voor ek haa' inspan. Was haa' bene af.*
Me	*Was haa' net met water of is 'aa 'n siep of iets?*
Reyaz	*Net water, sometimes siep.*
[Reyaz	Firstly, I will brush her coat before I add on the equipment. I will wash her legs.
Me	Do you only wash her with water, or do you use a kind of soap?
Reyaz	Only water, sometimes soap.]

From the example, I observed that maintaining the physical condition of the horse was important to Reyaz. He meticulously washed her coat daily, paying special attention to the legs. Sometimes, small skin lesions might go unnoticed. It was thus vital to identify and prevent such ailments in the horse. If the horse went long periods without treatment for injuries or skin lesions, the horse was not be able to pull the cart with a load over long distances.

4.2.3.3 Resting time

Resting time referred to the period of temporary cessation of work activities by cart-horses. Considering the physiology of the work horse, these animals required sufficient time to rest between laborious activities. If cart-horses were not given enough time to rest, they were not cooperative with the person or people handling them during work hours. Chadwin was among the participants of this study that preferred to give Boy George his rest period from the moment they return to their encampment:

Chadwin	*Daa' vanaf ga' rus sy maa' net weer . Sy kos, sy water.*
Me	*Mmm-mmm. Okay, soe kry hy behoorlike rustyd.*
Chadwin	*Ja, hy kry behoorlike rustyd.*
[Chadwin	From there he will go and rest again. He will get food and water.
Me	Mmm-mmm. Okay, so he gets enough time to rest.
Chadwin	Yes, he gets enough time to rest.]

As soon as they returned from a day of collecting scrap and refuse, the horse was given food and water and a moment to rest in his stable. The horse might go and roll around in the sand to cool off. Chadwin considered the resting time of the horse to be a very important aspect of their work. If the horse did not get enough rest, he was not able to travel long distances the next day again.

4.2.3.4 Body condition

Body condition referred to the amount of fat on a horse's body. The body condition of horses revealed whether a horse consumed enough food, how much time it took for injuries to heal, and their physical strength to pull a cart. It was affected by the type of work they do and instances of abuse by people. In this study, the body condition of cart-horses was noted in the degree to which a horse has a robust body structure. Cart-horses were not physically weighed; however, the presence or absence of visible bone structure was used as an indicator of body fat and overall body condition. Henry described, in the briefest detail, how he can tell if Honeygirl is happy:

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Me	*Hoe kan meneer sê as 'ie perd kalm is? Hoe lyk sy lyf taal?*
Henry	*As hy vet is.*

[Me	How can you tell if the horse is calm? what does her body language tell you?
Henry	If she is fat, she is happy.]

Henry's observation of body fat in the horse's condition showed that he understands some kind of relationship between body condition and the horse's well-being. If a horse had a robust shape, then they were said to be in good body condition. However, if the horse had a slim shape with some of the bone structure showing, then the horse was said to be in a weak body condition. The state of the body condition, in this instance, represented the state of the horse's well-being.

4.3   Summary of chapter four

Both the pilot and main studies provided a wealth of information about informal settlements, cart drivers, and cart-horses at Freedom Farm informal settlement. The most important results of the pilot study focused on the community structure of the settlement and the profiles of study participants and their horses. In addition, this chapter presented the results of the main research based on three themes identified in human-animal entanglements. The themes identified were as follows: the development of human-animal relationships; strategies for animal work; working conditions and animal welfare. The next chapter discusses various themes that emerged during fieldwork concerning literature. Additionally, the next chapter attempts to trace network assemblages in the discussion of the entanglements between humans and cart-horses.

CHAPTER 5 – DISCUSSION OF RESULTS (Part 2)

The following chapter is a discussion of the results presented in part one above. Firstly, the results of the pilot study are described and discussed. The second part of the discussion is a conventional content analysis of the themes identified in the empirical data sets. Lastly, a brief discussion on the active networks to trace network assemblages of cart-horse labour.

5.1 Freedom Farm and her people

The community's approach to organising themselves socially reveals the development of two distinctive sub-communities within the settlement. Over time, the people who came to build homes and encampments for their families did so near other families who shared a common language. Community organising, by definition, is the process or method of engaging and empowering people to expand the influence of historically underrepresented groups in political and life-changing decisions (Gittell, n.d). Two studies have examined different approaches to community organising in the South African context.

A study by Oldfield (2004) investigated the effects of resettlement on racial characteristics of economic and social networks of families living south of Delft in Cape Town. It concluded that physical relocation does not diminish the importance of racial identity. Instead, alternative identities emerge around social issues, depending on the circumstances and interests of the population. (Oldfield, 2004). Skuse and Cousins (2007) explored the struggle for urban stability in informal settlements. It focused on the fast development of informal settlements and subsequent struggles between residents and the City Council over squatters' claims, considering the dynamics of communication. (Skuse & Cousins, 2007). After several disruptive events in this settlement over the years, the formation of a "street committee" marked an important moment in the definition of a settlement (Skuse & Cousins, 2007). These commissions were important for communication between residents and for the government's involvement in the democratic process by acting as a representative.

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Qualitative data from the pilot interviews with Aiman revealed a significance in linguistic identity: the settlement's residential structure was separated by commonalities in spoken language. Families residing on one side of the settlement spoke a dialect of Afrikaans known as Afrikaaps or Cape Afrikaans. Many families living on the other side spoke Xhosa. The outcomes of the pilot study show similarities with Oldfield (2004), whereby the identities of people have caused them to cluster based on similarities in social circumstances and shared spoken language.

The establishment of a "street committee" (Skuse & Cousins, 2007) brings about the chance for communication between the residents, the municipality, and the landowners of the area where the settlement is established. As discussed by Aiman and his wife, a small number of people were identified as community leaders on both sides of the settlement. Their role was to address the needs of the residents by negotiating for infrastructure and service delivery. Considering Aiman's wife was one of the community leaders at the time, she became involved in consultations with the City of Cape Town municipality and relevant players at Cape Town International Airport. These talks resulted in the connection of taps to water pipelines, subsidised toilet systems, and refuse removal.

The purpose of describing the characteristics and dynamics of the settlement was vital to understanding the foundation and context of the human-horse relationship. Several families relied on men in the households to earn an income for their sustenance. Not many families had vehicles to travel to places of work; many individuals were reliant on public transport or carpooling with neighbours in possession of a working vehicle to move between the settlement and places of interest. To earn a daily income appeared to be more convenient; food and other necessities could be purchased with money that was more readily available to them.

5.2   Conventional content analysis of themes

Qualitative content analysis is defined as a research method for subjectively interpreting the content of text data through a systematic classification process that codes and identifies themes and patterns (Hsieh & Shannon, 2005, p. 1278). Conventional content analysis was typically used in research designs aimed at explaining phenomena (Hsieh & Shannon, 2005, p. 1279). The following section attempts to analyse the three main themes through a conventional content analysis: human-animal relationship; strategies of animal labour regarding cart-horses; and the work environment and animal well-being.

5.2.1   Human-animal relationship

The first theme of this research was concerned with the process of relationship development between humans and other animals over time. Interactions between the two tended to achieve anthropocentric goals or outcomes. Working animals, such as cart-horses, were incentivised for their involvement through maintenance and care. The core issues of this topic dealt with the processes and behaviours that formed relationships between cart-horses and people for work and companionship. This topic described how the cart-horses in Freedom Farm informal settlement related to each other, to their primary caregivers, and to other people. This theme answered the first research question regarding whether cart-horses may have a sense of a working relationship. The factors that influenced the human-animal relationship in this context were identified as follows: the purpose of the human-animal relationship; years of experience; becoming familiar; communication; cooperation; and a sense of companionship.

The common purpose of people and cart-horses developing their relationship was premised on the anthropocentric need for animal labour. Other animals, like equids (e.g., horses and donkeys) and bovids (e.g., cows and oxen), were commonly used by people in rural or peri-urban spaces to facilitate and simplify processes of labour, such as transport, cultivation, and loading (Mota-Rojas, *et al.*, 2021). Participants in this study

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have demonstrated their need for cart-horses, mainly for loading material or as an alternative mode of transport.

Years of experience in animal handling influenced how quickly people and other animals become familiar with each other in the work environment. Years of experience referred to the number of years humans and horses have been engaged in a desired type of work. The familiarity between workers referred to the close acquaintance or knowledge of horses by humans. It took years of experience to be able to recognise signs of comfort and discomfort in animals (Birke, 2008). Understanding the behavioural characteristics of animals ensured that the handler and the animal concerned were safe (Grandin, 1987). Participants in the main study worked with horses since childhood. The overall human experience with horses was greatly influenced by how – and to what extent – humans interacted with horses daily. Considering that the participants were taught to work with horses by their fathers or grandfathers, they were able to develop skills in handling horses – with or without carts attached. In their adulthood, it was easier for some participants to build familiarity with horses they acquired for themselves. Some horses have experienced one or two primary carers before their current carers. However, they were able to adapt to their new owners easier over time, granted their owners were experienced in handling horses.

Communication between humans and other animals determined how well they cooperate during work. A study by Brandt (2004) explored how humans and horses co-create their language system. Through a symbolic interactionist perspective, the study revealed that communication between people and horses is an "embodied experience" (Brandt, 2004, p. 301). The earliest publication on cooperation between humans and other animals was the study by Crook, 1970. The paper identified traits that were similar between human and animal cooperation. Given that humans and horses cannot communicate in spoken language, the importance of non-verbal communication was highlighted as it facilitates the making of meaning (Brandt, 2004). In the present study, non-verbal signals were crucial elements of communication between participants and cart-horses of this study. The horse's ability to cooperate with a rider or owner during

work may reveal a sense of subjectivity; the horse, in essence, shows a preference for complying with instructions from the human.

5.2.2 Strategies of animal labour

The second theme of this study concerns the animal working strategies employed by the participants. It was described as an action plan aimed at achieving long-term goals for work and income by humans through animal labour. This theme contributed to the response to the first research question regarding whether cart-horses had a sense of a working relationship. The approach to work and associated with labour was subjective to a few factors, namely: the goals and objectives of the work they are engaged in; the distance travelled for work; the season of the year that work is done; the time spent working; the income earned; and the number of team members that assist the primary carer and the cart-horse.

The goals and objectives of the work they engaged in had an impact on the distance people and cart-horses travel. Work goals referred to achievable long-term outcomes (goals) and measurable actions for achieving overall goals (objectives) related to activities that require mental or physical effort. Distance travelled referred to the amount of ground driven by the draft horse and rider or rider during the journey. Depending on their goals and objectives for a day's work, a rider and cart-horse travelled further for their work, as was the case with Chadwin and Boy George.

The initiation of the outcomes of their work goals and objectives was dependent on the season of the year, ultimately influencing how frequently they worked over a period. The time of year that work was done between people and cart horses refers to the seasons in which they are most and or least actively working. How frequently they worked also depended on the type of work they engaged in and the number of hours they worked. The type of work referred to the categories of work that include a set of job functions requiring the performance of a common set of tasks and can include several jobs. It was characterised by the type of labour required by people and cart horses. The working time referred to the period a person and a cart-horse spend during incentivised labour.

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The income earned differed among participants due to differences in the type of work they were engaged in and may be shared among additional team members. Income referred to the incentives received in exchange for goods and services. Cart-horse labour was incentivised in several ways – to the horse and the person (or people) involved. Team members were the number of additional people or cart-horses involved with cart-horse labour. Teams were mostly encountered where cart-horses or groups of cart-horses were engaged in one or more types of work. These factors contributed to the response to the first research question by discussing the approach to work by humans and the involvement of cart-horses. The animals, in this sense, showed signs of agency in their interaction with humans in their work strategies, as supplemented by the development of their relationship.

5.2.3   Work environment and animal well-being

The final theme of this study, working environment and animal well-being, related to the physical locations in which humans and cart-horses work. It mainly discussed the effect that the conditions of the work location have on the well-being of the cart-horses. The conditions that working animals were subjected to, under the supervision of human workers – impacted their well-being depending on the nature of their interaction. This theme answered the second research question regarding a source of meaning to cart-horse well-being during labour activities. The following factors in the work environment have been identified as having an impact on the well-being of cart-horses: Response to the work environment; maintenance and care of the horse; the amount of time horses have for resting; and the horse's body condition.

Horses tended to respond to different levels of noise in the work environment. Responses to the work environment referred to indications of stress in response to situations and events in the workplace by cart-horses. An article by Budzyńska (2014) reviewed the horse's biological mechanisms of adaptation to environmental stresses. It also discussed ways in which physiological and behavioural factors in their response to stress may relate to each other. Coping mechanisms in animals, such as horses, can be

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activated in highly stressful environments (Budzyńska, 2014, p. 8). As described in the present study, cart-horses displayed restless behaviour in locations of high traffic volumes, large vehicles, and high levels of activity resulting in disruptive noise levels. To cope with these kinds of environments, horses took a proactive approach, commonly observed in their fight-or-flight response to external stimuli (Budzyńska, 2014, p. 9).

In one case, Abbi's horse was restless amid traffic while pulling a heavy load on a bridge. The horse's attempt to run off was a startled response to the cart tipping over, which caused the load on the cart to fall off. Additionally, the sound of traffic around the commotion overstimulated the horse's senses, encouraging their fight-or-flight response.

A horse that was well-maintained and cared for, and was given ample resting time, will show signs of a healthy body condition. Maintenance and care explained the process of maintaining the physical condition of cart-horses by ensuring their health and welfare. The resting time referred to a period of temporary cessation of the workhorse's work activity. The body condition signified the amount of body fat in a horse. One of the earliest documents recording techniques of horse care and management was an instructional *Horse care and management* Jordan (1969). Out of the three qualities of a "good horse" (Jordan, 1969, p. 3), these three components related to the environment of the horse concerning nutrition and care. In essence, how horses were treated by humans revealed the degree of maintenance and care they received as indicated by how much body fat they retained.

In the present study, participants discussed their approach to tasks such as cleaning, brushing, feeding, and attendance to injuries of their horse(s). Where participants owned and cared for more than one horse, as in the case with Reyaz and Abbi, they had additional team members to assist them with maintaining the horses and managing the horses, for example, cleaning the stalls, filling the feeding trough, attending to work tasks, and so forth. Similarly, they discussed how frequently they allocated time for their cart-horses to rest. This was greatly influenced by the number of times the horse travelled on the road and the distance they travel. If a horse travelled far from the

settlement for work, it will only be out for work once a day as it took time to return home. If a horse travelled to an area closer to the settlement, it went out for work more than once a day as the distance and time taken to travel was shorter.

The body condition was the greatest indicator of the state of their health. Although not formally measured by body condition score (Henneke, 1985) in this study, it was still useful to include descriptions of physical attributes of the horse's body condition in the empirical data set. There appeared to be differences in the physical appearance of the horses based on the type of work they are involved in. Scrap and refuse collecting horses tended to be much streamlined in appearance with a few ribs that may show. Their coats are slightly matted, attributed to the long distances they travelled and the amount of rest they received. Show horses, in contrast, did not travel every day. Instead, they had more time for resting and feeding. They did not have matted fur and appeared to have a more robust appearance with little to no ribs showing. In essence, a horse's well-being was affected by factors influencing its work environment.

5.3   Actor-networks: Tracing network assemblages of cart-horse labour

Freedom Farm informal settlement, in the context of ANT, was composed of several actors that became entangled in the cart-horse assemblage. However, the actors – in their capacity – became entangled in assemblages based on their locality within the settlement, the type of work they engage in, and how they conducted their work. The following section is a brief discussion of actor-network assemblages observed in the thematic analysis. Firstly, a description of the way humans and cart-horses mobilised their environment. Secondly, the formation of alliances will be discussed. Thereafter, a short evaluation of the effectiveness of cart-horse labour on human lives and the horse's well-being. Lastly, a discussion of the institutionalisation of cart-horse labour by describing the role of animal organisations.

5.3.1 Mobilisation of the World

The central core of this actor network includes the humans (i.e., the horse owners) and other animals (i.e., cart-horses). Each cart-horse forms part of an assemblage of the humans they interact with. For this section, I refer to these human-horse groups in the settlement, as identified by the main participant and their horse(s), "clusters". Each cluster, in turn, forms part of the greater cart-horse assemblage in the settlement and – by extension – in the Cape Town area. When observing the phenomena of animal work on a greater scale, the City of Cape Town's municipal jurisdiction was also considered as a site where cart-horse labour takes place. The informal settlements and peri-urban spaces of the city formed the clusters of actants in this large actor-network of cart-horses in Cape Town. In contrast, the present study became a lens into one of the clusters in the actor network of the city – Freedom Farm informal settlement. It essentially categorised the settlement and its surrounding suburbs as the "world" in which the phenomena of animal work take place.

People and cart-horses mobilised this world by utilising a range of non-human resources (Young, *et al.*, 2010, p. 1214). It included the following tangible entities: the cart and riding equipment; the food supplied to the horse; the shelter and encampment they live in; the material they collect (in the case of scrap and refuse collectors); and the cash they earn as their daily income. These resources served different purposes to each cluster as affected by the type of work they engage in. However, the nonhuman resources entangled in cart-horse labour enabled the human to do work with the horse.

5.3.2 Alliance building

The horse owners in each cluster of the central core received assistance from friends or family members to maintain and manage the cart-horses. The putative innovation (Young, *et al.*, 2010, p. 1214) of this study was the type of work that each cluster is involved in, while the allies were the additional team members. This approach to alliance building showed a degree of closeness in the relationship between those who assisted with the cart-horses and those who own them. This was a sign of trust between

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human beings in the appointment of proxies to assist with the maintenance and management of the cart-horses.

Considering that these working animals were valued for their ability to alleviate heavy labour, it was vital to identify individuals who were trustworthy and capable handlers. Their role was to help with maintaining good body condition in the horses. They also assisted with managing the space these horses rested and slept in. Lastly, they assisted with adhering to feeding times – particularly where more than one workhorse was present. If an untrustworthy acquaintance were to bear responsibility for these tasks, then the well-being of the horse(s) was negatively impacted. The outcomes of their involvement resulted in the horse's ability to decline, making it difficult to continue labouring their work tasks.

5.3.3   Balance of opinion

The existence and prevalence of cart-horse labour in settlements like Freedom Farm were formally accepted by the city council services. Given the historic background of cart-horses in Cape Town, the informal sector's reliance on draught labour was legally recognised. It warrants some form of regulation concerning the horse, the work they engaged in, and their living arrangements. In Chapter 4 of the City of Cape Town Animal By-laws (2010), the city council outlined important information regarding the regulation of working equines. Included in the document are the following: information on the issuing of permits to keep working equines; amendments, suspension, and cancellation of permits; control of working equines; seizure, impounding and destruction of working equines; and the prohibited rescue of impounded working equines. The by-laws ensured that the well-being of working equines is protected by implementing rules and protocols for people.

5.3.4 Autonomisation or Institutionalisation

Institutional support for cart-horse labour in Cape Town came in the form of the Cart Horse Protection Association (CHPA). The Cart Horse Protection Association is a Cape Town-based non-profit animal welfare organisation. Their mission was to promote the welfare of working horses and donkeys in the Western Cape through service, legislation, education, and training (Cart Horse Protection Association, n.d). Inspectors at the organisation were involved in monitoring horses on public roads and educational outreach. Additionally, they provided clinical services and veterinary care to horses who may be sick or injured. More severe cases required rehabilitation for a longer time. In this instance, horses were transported to their Recovery and Rehabilitation facility in Gordon's Bay. The organisation also contributed to the City of Cape Town's Animal By-laws of 2010, more specifically Chapter 4 on working equines.

The organisation issued what was known as the E53 Cart Horse Operator Permit. It enabled individuals to drive an animal-drawn vehicle on public roads in conjunction with section 17 of the City of Cape Town's Animal By-laws (2010). Before the issue of these permits, prospective cart drivers attended workshops that taught them traffic signs, safety procedures and hand signalling. They were also taught how to properly tether horses to their carts. The most important part of their training was to carry out roadworthiness and safety inspections of the carts, including pre-work inspections of horses. Out of all the participants in this study, only three of them confirmed that they were issued a driving permit. It was different to the permit issued by the council which enables the permit holder to "put to work a working equine". The permit issued by CHPA enables an individual to drive on a public road with a horse and a cart.

5.4   Summary of chapter five

Qualitative data obtained from pilot interviews with Aiman showed that linguistic identity determines the community's approach to organisation. The residential structures of the settlements were separated by linguistic similarities. The goals and objectives of the work they engage in tend to affect the distances people and cart-horses travel. If a

participant owns and cares for multiple horses, additional team members will help care for and manage the horses.

The central core of this actor network includes humans (i.e., horse owners) and other animals (i.e., cart-horses). The presence and prevalence of cart-horses in settlements such as Freedom Farm are officially recognized by the city government. The community's approach to social organization reveals the development of two distinctive sub-communities within the settlement. The purpose of describing settlement features and dynamics is important in understanding the basis and context of human-horse relationships.

The common purpose in which humans and horses develop their relationship is based on an anthropocentric need for animal labour. Communication between cart-drivers and cart-horses determined how well they work together at work. The goals and objectives of the work they engaged in tend to affect the distances people and cart-horses travelled. Earned income varied among participants and was shared among additional team members due to the different types of work undertaken. If a participant owned and cared for multiple horses, additional team members helped care for and manage the horses, e.g., cleaning boxes, refilling feeders, completing work tasks, etc.

CHAPTER 6 – CONCLUSION AND RECOMMENDATIONS

In this study, we introduced the topic of cart-horse labour, the aims, objectives, and research questions of this study. Human life experiences are closely intertwined with our relationships with other animals and the environment. Treatment and attitudes toward other animals often reflect social problems that exist in human society. From the late 19th century to the late 20th century, cart-horses served as informal travel markets for the community of District Six of Cape Town. However, because of forced migration, the role of horses in the city of Cape Town changed as people's living experiences changed. Freedom Farm is an informal settlement at the intersection of Robert Sobukwe Road and Stellenbosch Arterial Road in the northern suburbs of Cape Town. Horses, donkeys, and goats are also common animals in the settlement. Cape Town City Council may have animal laws regulating the ethical treatment of working horses concerning people's living and working conditions. However, in informal communities like Freedom Farms, which now rely on it, this was not necessarily regulated for the benefit of horses.

Sociology emphasised the impact of non-human animals on humans in various ways. Urban areas are multi-layered spaces with many complex interactions between human and non-human entities. Nonhuman animals in urban environments offer perspectives for rethinking urban society. Agency and intersubjectivity in non-human animals have been debated in recent years. There was a degree of intersubjectivity between humans and other animals.

Actor-network theory (ANT) is an empirical, research-based interdisciplinary perspective that focuses on the process of translation and the role of non-human actors in various observations and experiences. The first driving force, mobilisation of the world, described how stakeholder networks connect with a variety of nonhuman resources to transform information and generate innovation. A second source of power, alliance formation, was the process of bringing together connected individuals or groups whose known information from relationships can expand networks and subsequent resources. The third source of power, balance of opinion, looked at the legitimisation of the cart-

http://etd.uwc.ac.za/

horse industry in relation to the city. In actor networks, autonomy or institutionalisation referred to the process by which relevant structures provide significant acceptance (and institutional support) for innovation.

The research design of the study was initiated by a pilot study to gain familiarity with the study site and members of the community. The second portion of the research design was the main study which included the target group of participants. These participant interviews were conducted with members of the community who owned and drove cart-horses. Participants were typically interviewed in their encampments at a time most suitable for them. Data was collected through participant interviews, participant observation in their encampment and observations of the cart-horses' interactions with the owners. The empirical data sets were analyzed for themes using conventional content analysis. A brief discussion on the resulting network assemblages followed the content analysis.

The community's approach to social organisation reveals the development of two distinctive subcommunities within the settlement. Qualitative data obtained from pilot interviews with Aiman showed that it is important for linguistic identity. The residential structures of the settlements were separated by linguistic similarities. On both sides of the settlement, a small number of people have been identified as community leaders. Their role is to meet the needs of the population by negotiating the provision of infrastructure and services. The purpose of describing settlement features and dynamics is important in understanding the basis and context of human-horse relationships.

The first topic of this research deals with the process of relationship formation over time between humans and other animals. The common purpose in which humans and horses develop their relationship is based on an anthropocentric need for animal labour. Years of experience working with animals can affect the speed at which humans and other animals adapt to each other in the work environment. Communication between humans and other animals determines how well they work together at work. The second theme in this study concerns participants' animal work strategies. The goals and

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objectives of the work they engage in tend to affect the distances people and cart-horses travel.

The onset of their work goals and desired results varies with the seasons. How often they work also depends on the type of work and the hours they work. Earned income may vary among participants and be shared among additional team members due to the different types of work undertaken. Horses tend to respond to varying levels of noise in their work environment.

Work environment reactions refer to signs of stress in response to situations and events in the cart-horse's workplace. A well-groomed and well-rested horse showed signs of good health. If a participant owned and cared for multiple horses, additional team members helped care for and manage the horses, e.g., cleaning boxes, refilling feeders, completing work tasks, etc. The physical condition was the most important indicator of health. The central core of this actor his network includes humans (i.e., horse owners) and other animals. Each cart-horse was part of a collective with the people it interacts with. Horse owners in each central core cluster, with the support of friends and family, cared for and managed their draft horses. The presence and prevalence of cart-horses in settlements such as Freedom Farm are officially recognized by city government services. Institutional support for working horses in Cape Town was provided by the Carting Horse Protection Association (CHPA).

Recommendations for future research into this topic may include more in-depth participant observations of cart-horses and their owners/riders. A more robust actor-network analysis could also prove advantageous for the tracing of more complex assemblages of cart-horse labour. The involvement of CHPA in future research, as an institution and regulatory body, may provide valuable insights into cart-horse assemblages in Cape Town, as well as a chance to evaluate the effectiveness of their work.

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The location of Freedom Farm informal settlement relative to a) Bishop Lavis, b) Malawi Camp, c) Modderdam cemetery, and d) Belhar. It lies on the corner of Stellenbosch Arterial and Robert Sobukwe Road in Cape Town, Western Cape. (Image: ©2022 CNES / Airbus, Maxar Technologies, Map data ©2022 AfriGIS (Pty) Ltd)

Examples of pilot study questions and probes:

Focus area	Examples of pilot study questions and probes
Life history and community interaction at Freedom Farm	• How long have you lived in Freedom Farm? • What is your earliest memory of living in Freedom Farm? • Can you describe some of the challenges you experience with living here? • Can you describe some of how you have adapted to your living space? • In what ways do people organise the space that they live in? • How would you describe your relationship with other members of the community? • What are some important points or conditions of living in this community? • Do you receive any assistance from the City of Cape Town about living in this community? • What conflicts have you experienced with fellow members of the community, municipal workers, or other organisations while living here?
Attitudes towards horses in Freedom Farm	• What is your earliest memory of animals as a child? • Did you have any companion animals (pets) growing up? • What is your fondest memory of this animal? • What is your opinion on the horses living here? • How would you describe the condition of the horses? • How would you describe the relationship between the horses and the rest of the community? • Can you recall any conflicts between horses and members of the community in the past or present?

Examples of main study questions and probes:

Focus area	Examples of main study questions and probes
The human's relationship with the horse	- How long have you worked with cart horses? - How long have you worked with this particular horse? - Who else works with you and your horse? - How important is this cart horse to your daily living? - Describe a special interaction or bond between you and this horse.
The horse's relationship with the human	- How long did it take for the horse to become familiar with you? - How does your horse react when you prepare to leave the camp? - How can you tell when your horse is calm? - How can you tell when your horse is stressed? - How does the horse react in quiet vs noisy areas or neighbourhoods?
The human-horse relationship during work	- How do you prepare the horse for work? - How many trips do you make in a day? - Where do you travel with your horse from Freedom Farm? - How long does one trip last? - How much resting time does the horse have between trips? - What kind of work do you do with the horse? - During which months do you work the most? - During which months do you work the least?

PARTICIPATION INFORMATION SHEET

RESEARCH TITLE: "Animals at Work: A multispecies ethnographic study of entanglements of cart-horse labour in Freedom Farm informal settlement, Cape Town.**"**

Dear Participant

My name is Lynné Hazel Vigeland and I am a Master's student in the Department of Sociology, at the University of the Western Cape. I am conducting research that aims to explore and describe the different ways that humans and horses do conduct labour by introducing a new way of conceptualising agency in working horses. The main objective of the proposed study is two-fold. Firstly, to observe and describe the complex entanglements of labour between humans and working horses. Lastly, to establish whether their experiences of labour can be used to describe the condition of their well-being.

If you are willing to participate in this study, you will be interviewed and shadowed for a minimum period of 1-2 weeks to observe your interaction with horses. Questions relating to your life history, history with horses and the scope of your current relationship with horses will be asked. In terms of working horses, I will observe how the horses interact with you, other horses and their environment. With your permission, interviews will be recorded for transcription and analysis. Additionally, with your permission, visual material (i.e., photographs and videos) will be taken of relevant scenes in the field (e.g., Human and horse interactions).

It is important to stress that your participation is entirely voluntary. If you feel uncomfortable while being interviewed, please indicate this. You are allowed to withdraw from the process at any stage. In such a case, the research data provided by you as the participant will be immediately destroyed.

Each effort will be made to minimize risks and protect you from harm, and your identity and contribution to the research study will be kept anonymous. All data obtained from participants will be treated confidentially and will be used for academic purposes only.

You are most welcome to request a copy of the research study so that you can be aware of the findings. Your assistance with this research is highly appreciated, and should you have further questions or wish to know more about the study, I can be contacted as follows:

Student Name: Lynné Hazel Vigeland
Student Number: 3823302
Cell Number: 0825836900
Email: 3823302 @myuwc.ac.za

I am accountable to my supervisor:
Dr S. Spicer, Department of Sociology, UWC
Telephone: (021) 959 2336
Cell: 0824330932
Email: sspicer@uwc.ac.za
Thank you in advance

Research Project

Project: **"**Animals at Work: A multispecies ethnographic study of entanglements of cart-horse labour in Freedom Farm informal settlement, Cape Town.**"**
Researcher: Lynné Hazel Vigeland
Supervisor: Dr Sharyn Spicer

Please initial box

1.   I confirm that I have read and understood the information sheet explaining the
     above research project and I have had the opportunity to ask questions about the project.

2.   I understand that my participation is voluntary and that I am free to withdraw at any time
     without giving any reason and without there being any negative consequences. In addition,
     should I not wish to answer any particular question or questions, I am free to decline.
     (If I wish to withdraw I may contact the lead researcher at any time)

3.   I understand my responses and personal data will be kept strictly confidential. I give
     permission for members of the research team to have access to my anonymised responses.
     I understand that my name will not be linked with the research materials, and I will not be
     identified or identifiable in the reports or publications that result from the research.

4.   As a participant in the discussion, I will not discuss or divulge information shared by others
     in the group or the researcher outside of this group.

5.   I agree for the data collected from me to be used in future research.

6.   I agree to take part in the above research project.

7. I understand that I am free to withdraw from audio recording at any point

_____   _____   _____
Name of Participant   Date   Signature
(*or legal representative*)

_____   _____   _____
Name of person taking consent   Date   Signature
(If different from the lead researcher)

_____   _____   _____
Lead Researcher   Date   Signature
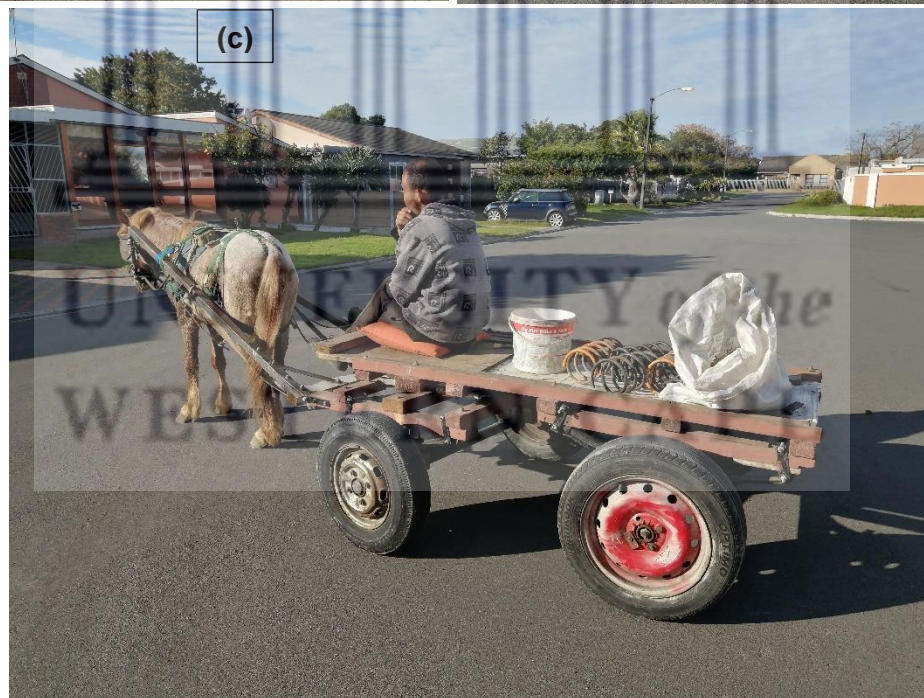(*To be signed and dated in the presence of the participant*)

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only.

Researcher:	**Supervisor:**	**HOD:**

The first participant, Chadwin, sitting on the cart with Boy George (a); the horse's coat and body condition (b); and the unlicensed cart used for scrap collection by Chadwin and his cart-horse (c). (Source: Own photos)

The mixed-breed horse named Honeygirl (a); the wood collected by Henry in the bush (b); and the bridles and reins being fixed by Shaun (c). (Source: Own photos)
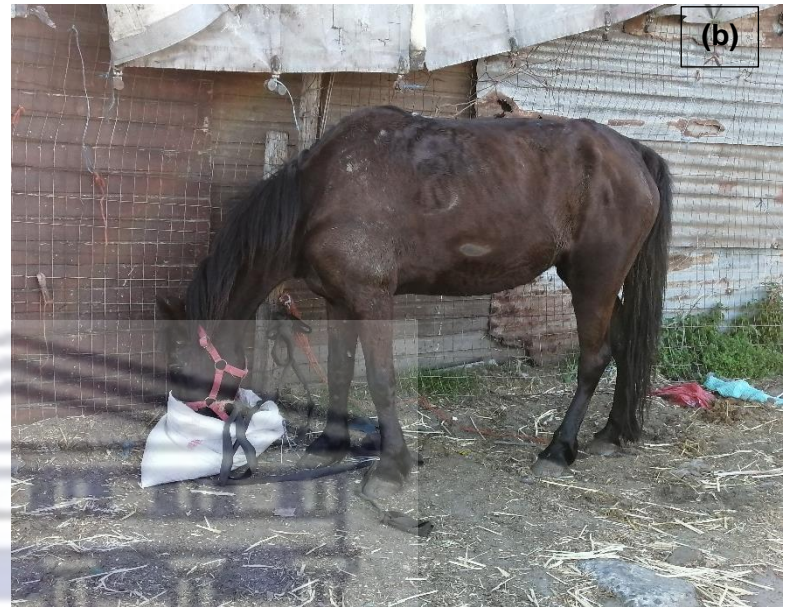
90

The mixed-breed horse named Shanté in her stable (a); and Reyaz with the young unnamed, mixed-breed horse preparing to collect wood from the nearby bush (b). (Source: Own photos)

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APPENDIX IX

One of Abbi's show horses (a); one of the cart-horses that returned from a day on the road (b); and the decorative carts used for special occasions stored under a covering (c). (Source: Own photos)